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ABSTRACT

The P-16 initiative of the State Higher Education Executive Officers (SHEEO), which produced the essays in this collection, began in 2000. This initiative has included case studies of P-16 activities in five states and full-day discussions of P-16 issues involving educators and policymakers. These essays articulate what state educational systems can do, and perhaps what they must do, to enable the next generation of U.S. youth to reach their educational goals. Collectively, the essays make the case that success in postsecondary education can become widespread only if the entire educational system is geared toward preparing and enabling students to become successful learners and workers. The essays are: (1) "Early Outreach" (Terese Rainwater and Andrea Venezia); (2) "Curriculum and Assessment Systems" (Janis Somerville and Yun Yi); (3) "High Quality Teaching" (Edward Crowe); (4) "Student Financial Assistance" (David A. Longanecker and Cheryl D. Blanco); and (5) "Data and Accountability Systems" (Hans P. L'Orange and Richard Voorhees). An appendix describes the Pathways to College Network and lists members of the case study teams. (SLD)

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Student Success:

Statewide P-16 Systems

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State Higher Education Executive Officers (SHEEO) is a nonprofit, nationwide association of the chief executive officers serving statewide coordinating and governing boards for postsecondary education. The mission of SHEEO is to assist its members and the states in developing and sustaining excellent systems of higher education. SHEEO pursues its mission by: organizing regular professional development meetings for its members and their senior staff; maintaining regular systems of communication among the professional staffs of member agencies; serving as a liaison between the states and the federal government; studying higher education policy issues and state activities and publishing reports to inform the field; and implementing projects to enhance the capacity of the states and SHEEO agencies to improve higher education.

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SHEEO

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Preface

The SHEEO P-16 Initiative, which has produced these essays, was conceived in the summer of 2000 in discussions of SHEEO staff, the SHEEO K-16 Committee, and staff of the U.S. Department of Education. As we proceeded we found ourselves naturally attracting and being attracted to colleagues in other associations working on the same agenda – improving access to and success in higher education. Most prominently, these include our partners in the policy component of the Pathways to College Project – The Western Interstate Commission on Higher Education (WICHE), the Education Commission of the States (ECS), and the College Board.

The project has received support from four U.S. Department of Education programs – GEAR-UP, Higher Education Act Title II – Teacher Quality Enhancement, PT3-Preparing Tomorrow's Teachers to Use Technology, and the Office of Vocational and Adult Education. The project also received support from the Pathways to College project; Pathways to College is a consortium of 19 organizations and associations focused on improving the participation and success of under-represented groups in higher education. Pathways, described in more detail in the appendix, has been supported by a growing group of private foundations and the U.S. Department of Education.

The initiative has included "case studies" of P-16 activities in five states – California, Louisiana, Maryland, North Carolina, and Rhode Island – organized primarily by the staff of each state's higher education agency. It also has included full-day discussions of P-16 issues involving educators and policymakers in Washington, Tennessee, Montana, and Indiana. The project also is sponsoring four two-day regional seminars (now in progress), each of which will help policymakers from a dozen or so states develop strategies for improving student participation and success. All of these activities have informed these policy essays.

The biographical sketches that follow introduce the authors of the essays, who collectively have accumulated many years of wide-ranging policy experience. While we have different perspectives, we share a passionate belief that only comprehensive, well-integrated state systems can meet the educational needs of the next generation. We have influenced each other, and we have many intellectual debts, especially to those who participated in the project. (A list of participants in the state case studies and of others who have contributed in various ways is contained in the appendix.) Despite the many contributions from our colleagues and friends, the authors of each of the essays bear sole responsibility for the views therein.

Paul E. Lingenfelter
Executive Director
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Authors' Biographies

Cheryl Blanco is Senior Program Director for Policy Analysis and Research at the Western Interstate Commission for Higher Education (WICHE) where she monitors historical and emerging socio, economic, and political trends that impact higher education; directs the work of several policy projects; and produces a variety of publications to improve policymaking in higher education. Major initiatives that Blanco oversees are the Commission's national report on projections of high school graduates, production of a regional fact book, preparation of a short report series, Policy Insights, and WICHE's regional policy forums and state roundtables. Prior to joining the WICHE staff, Blanco was educational policy director at the Florida Postsecondary Education Planning Commission. She received her Ph.D. in higher education from Florida State University.

Ed Crowe is a consultant on teacher quality and K-16 policy issues for several organizations. His current work includes projects with the State Higher Education Executive Officers (SHEEO); the Carnegie Corporation of New York's Teachers for a New Era Program; the National Commission on Teaching and America's Future (NCTAF); and the Southeast Center for Teaching Quality (SECTQ) at the University of North Carolina He also has had consulting roles with the U.S. Department of Education and the Education Commission of the States. Crowe was the first director of the Title II Teacher Quality Enhancement Program for the U.S. Department of Education. He has extensive experience in state higher education policy, and as senior manager of a statewide math and science education reform project funded by the National Science Foundation. Crowe is a graduate of Boston College. He received master's and doctoral degrees in political science from the University of North Carolina at Chapel Hill.

Paul E. Lingenfelter is Executive Director of the association of State Higher Education Executive Officers. From 1985 to 2000 he worked at the John D. and Catherine T. MacArthur Foundation and established and led its Program on Human and Community Development. From 1980 to 1985 Lingenfelter served as Deputy Director for Fiscal Affairs for the Illinois Board of Higher Education. Lingenfelter's educational background includes an A.B. from Wheaton College in literature, an M.A. from Michigan State University, and a Ph.D. from the University of Michigan in higher education.

David A. Longanecker is the executive director of the Western Interstate Commission for Higher Education (WICHE) in Boulder, Colorado. Previously, Longanecker served for six years as the assistant secretary for postsecondary education at the U.S. Dept. of Education. Prior to that he was the state higher education executive officer (SHEEO) in Colorado and Minnesota. Longanecker was also the principal analyst for higher education for the Congressional Budget Office. He has served on numerous boards and commissions and has written extensively on a range of higher education issues. Longanecker holds an Ed.D. from Stanford University, an M.A. in student personnel work from the George Washington University, and a B.A. in sociology from Washington State University.

Hans P. L'Orange is Director of Data and Information Management for the State Higher Education Executive Officers and Director of the SHEEO/NCES Network. The Network is a collaborative project administered by SHEEO and sponsored and funded by the National Center for Education Statistics (NCES) at the U.S. Department of Education. Director of the Network since 1998, L'Orange serves as a liaison to foster communication and collaboration between the federal government, state higher education agencies, and national associations on issues related to data management and using data and information to develop public postsecondary education policy. Previously, L'Orange was the Associate Director for Institutional Analysis at the University of Colorado at Boulder. He received his M.S. degree in business information systems with a minor in organizational development from the University of Colorado and a B.A. degree from Colorado State University.

Terese Rainwater is the project manager for The National Collaborative for Postsecondary Education Policy and policy analyst at the Education Commission of the States. The National Collaborative is a joint project with the National Center for Higher Education Management Systems, and the National Center for Public Policy and Higher Education funded by the Pew Charitable Trusts. The National Collaborative works with selected states to improve performance in identified areas of each state's postsecondary education system. Prior to working at ECS, Rainwater was the managing editor for Child Development Abstracts & Bibliography and a research fellow at the Kansas State Legislature. She received Masters' and Ph.D. in Postsecondary Education Administration and the Foundations of Education from the University of Kansas and a Bachelor's in Government from the College of Saint Benedict.

Janis Somerville currently serves as the director of the NASH/Education Trust state K-16 initiative. Prior to joining NASH, Somerville developed Maryland's statewide Partnership for Teaching and Learning K-16. Before coming to Maryland in 1994, she founded the Philadelphia Schools Collaborative to bring resources of K-12, college and community together in a comprehensive high school restructuring and college preparation effort. Somerville also worked for several years in higher education, including appointments as the senior academic officer for undergraduate education at Temple University and at the University of Pennsylvania. She holds an an M.B.A. from Harvard University and B.A. from Pennsylvania State University.

Andrea Venezia directs K-16 Projects in the Stanford Institute for Higher Education Research. Her work focuses on education policy research and analysis, particularly as related to student transitions from K-12 to postsecondary education. Previously, Venezia worked in research and policy positions at the state and federal levels, including the Texas Higher Education Coordinating Board and the National Education Goals Panel. She earned a Ph.D. in public policy from the LBJ School of Public Affairs at UT Austin, a Master's in administration and policy analysis in higher education from Stanford University, and a Bachelor's in english from Pomona College.

Richard A. Voorhees is currently the principal of the Voorhees Group, an independent, performance-based consulting firm located in Littleton, Colorado. Voorhees has worked in varied capacities with the U.S. Department of Education, Educational Testing Service, the Association of Community College Trustees, the Higher Learning Commission, the American Indian College Fund, the National Governors Association, and the State Higher Education Executive Officers. He was the President of the Association for Institutional Research for 2002-03. Voorhees holds a Ph.D from Arizona State University in Higher and Adult Education. His master's degree in counseling and guidance and bachelor's degree in Elementary Education were both earned at the University of North Dakota.

Yun Yi currently works as a policy associate with the NASH/EdTrust State K-16 Initiative. Her primary responsibilities include state policy research and analysis. Prior to joining the EdTrust in June of 2000, Yi worked as a project manager at the Chicago Panel on School Policy for two years, where she conducted qualitative research on Chicago public school programs and policies. Yi received a B.A. in psychology from Mount Holyoke College and a M.A. in social service administration from the University of Chicago.

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Executive Summary

by Paul E. Lingenfelter

The educational aspirations of American young people have never been higher, and they continue to grow.

In 1960 more than 27 percent of young people aged 16-24 were high school drop-outs. About 45 percent of those who graduated from high school in 1960 headed immediately for postsecondary education. By 2000, only 11 percent of young people aged 16-24 were high school drop-outs, and more than 63 percent of the high school graduating class of 2000 entered college immediately.

According to a 1998 survey published by the National Center for Educational Statistics, 78 percent of high school seniors say they definitely or probably will earn a four-year degree, 39 percent say they will definitely or probably earn a two-year degree, and 22 percent say they will definitely or probably attend a technical/vocational school (some clearly plan to participate in two or more postsecondary options).

Such aspirations did not emerge spontaneously – they were produced by changes in the world economy and overwhelming evidence that in the next generation only those with postsecondary education will be able to obtain and hold a good job. And it is not just workers who have a stake in advanced education; in the global economy no business and no society can compete with a workforce that lacks advanced knowledge and skill.

In effect, the educational system of the twenty-first century is being asked to double the production of the educational system of the mid-twentieth century – with no compromise on quality. This is an enormous challenge, and its difficulty should not be underestimated. Without dramatic changes in policy and practice, it cannot be achieved.

While policymakers and educators across the country who understand the challenge have been hard at work, the work is not finished. This series of essays describes how state and institutional leaders have developed and implemented strategies to help many more students become successful. But these essays are more than a collection of "best practices"; they have a point of view.

Along with many other educators, we contend that achieving the educational goals of the next generation will require policymakers and educators to view education as an integrated system, from birth through adulthood. Each of the individual elements of the educational system must be excellent in its own right, and importantly, each of them must work effectively with the others toward the system's goal – the highest possible levels of student learning through postsecondary education, and the capacity to continue learning successfully throughout life.

Despite many promising innovations among the states, no state has a fully developed, well-integrated educational system extending from birth through postsecondary education. We maintain that a common vision of such a system, a common commitment to implement the vision, and a venue for collaborative effort all are essential. While governance and structure matter, a common vision and commitment are far more important than the mechanics and structure of governance in a state. States with many different structures have made progress toward an integrated, well-functioning system. In these states, leadership and relationships among leaders have been most important in generating real progress, not changing the formal structure.

These essays focus attention on the experience of students during the traditional years of schooling, K-16. The term P-16 is used, however, to acknowledge that pre-school, early childhood experience, not addressed in depth here, is also quite important to student achievement.

The key components of an integrated educational system can be described and elaborated in many different ways. In our work we have focused on the following essential components:

1. **Early outreach** – which motivates parents and students to have high educational aspirations and shows them what is required for postsecondary educational achievement;
2. **Curriculum and assessment systems** – which specify the knowledge and skills that students need and help teachers and their students assess progress;
3. **High quality teaching** – which is essential for enabling students to achieve at higher levels;
4. **Student financial assistance** – which is increasingly essential as a means to enable and encourage participation in postsecondary education; and
5. **Data and accountability systems** – which allow educators and policymakers to monitor progress and guide their efforts to promote and enable greater achievement.

During the past year, the State Higher Education Executive Officers (SHEEO), in collaboration with the College Board, the Educational Commission of the States, the Western Interstate Commission on Higher Education, and educators from many states, examined P-16 systems in five states. Each of them – California, Louisiana, Maryland, North Carolina, and Rhode Island – has done exemplary work on one or more of these dimensions. The essays which follow draw on these case studies, other published work, and the broader experience of the authors in examining educational systems across the United States.

The purpose of the essays is to suggest answers to a straightforward question: What should states do to ensure that most of their youth participate and succeed in postsecondary education? We expect that the jobs available in the future will require many, perhaps more than half, of today's youth to have training equivalent to the four-year baccalaureate degree. Most other youth will need a solid high school education and additional postsecondary work, possibly an associate degree, to obtain a job with adequate earnings to support a family. While all youth may not reach these goals, fair access to economic opportunity – and ultimately the nation's prosperity – require state educational systems to work in favor of their success.

The essays explain the role and importance of each of the above components of a P-16 system to student success. They also explain the interrelationships among these components and how educators at every level, from pre-school to postsecondary education, need to work at common purposes to assure the success of the entire system. Highlights and recommendations from each of the essays are summarized below.

Early Outreach

Social scientists have long observed that the strongest predictor of participation in higher education is the education of one's parents. Children whose parents have participated in postsecondary education are automatically enrolled in a "program" that, early in life, exposes them to the advantages and possibilities of higher education. Children whose parents have not had successful experience in postsecondary education need another way to get this information.

A variety of successful early outreach programs have been designed and implemented to achieve this objective. The most successful:

- Focus on each individual student and on what motivates and sustains learning achievement;
- Engage young people in the context of their own culture and the community of their peers;
- Make clear to young people the importance of postsecondary education to their future, and convince them that it is possible to succeed if they do the right things, take the right courses, and work at their studies (this is critically important for students who come from families and communities where postsecondary participation

and success has been rare, and perhaps unexpected by their teachers and parents);

- Make very clear the academic standards required at each step of the way, beginning especially in the middle grades when the courses they take and their academic performance create or reduce future opportunities;
- Give students regular feedback on their academic strengths and the areas needing improvement in order for them to succeed;
- Provide high-quality teaching and coaching to help students improve where needed; and
- Provide convincing assurance (in several states a guarantee) that the cost of higher education will be within their reach if the student takes the right courses and succeeds well enough in high school (not necessarily at the highest levels) to demonstrate that he or she can succeed in college.

Early outreach programs clearly need to be well informed about the curriculum required for postsecondary success; they need to work with student financial assistance programs to provide early information and assurance about affordability; they need the active involvement of excellent teachers; and they need to obtain supportive diagnostic information from data and accountability systems.

Our most important observation about early outreach programs, however, is that the special, "add-on" programs which have helped many students are not sufficient. Vast numbers of students require early information and on-going coaching and assistance about postsecondary education. The above components of early outreach programs need to be embedded in the entire educational system. Every teacher in every classroom needs to be equipped to provide guidance and support to every student. Every teacher needs to have high expectations for student achievement. And every teacher and counselor needs to have the information and diagnostic resources necessary to help students become successful.

Curriculum and Assessment Systems

For more than twenty years numerous studies of success in postsecondary education have made it clear – the courses students take in high school are very important to their success in college. In fact, a rigorous college preparatory curriculum in high school is a better predictor of college success than test scores or high school grades.

Despite this evidence, many states have not required or encouraged students who aspire to college to take rigorous courses in high school. Also, many colleges have been lax in making clear to high schools and prospective students that the high school curriculum is crucial to college preparation and success. Even worse, some students have been "steered away" from rigorous courses, either due to stereotypes about their ability to succeed, or because they have had some difficulty in the past. All too often, the educational system has taken the expedient route of lowering students' own expectations rather than helping them rise to the challenge of greater achievement. And in too many cases a shortage of qualified teachers for college preparatory courses has contributed to this problem.

In many settings little consensus can be found between K-12 and higher education either about the nature or the rigor of learning experiences students should have to prepare for college. The lack of consensus derives not so much from sharp differences between the secondary and postsecondary domains as from the fact that higher education and K-12 systems simply have not made it a priority to work together for the purpose of defining what students should know. Higher education is too often the missing partner in discussions of K-12 curriculum, and both parties need to break out of the entrenched working habits that keep them apart.

A number of states are making significant progress on this issue. The most promising state efforts have:

- Made the college preparatory curriculum the "default" curriculum rather than the "honors" curriculum for high school graduation;
- Made the college preparatory curriculum a condition of eligibility for basic scholarship assistance or for merit scholarships;
- Forged agreements between K-12 and postsecondary institutions about the requirements for college-level study;
- Clearly aligned high school assessments of student ability with the qualifying examinations used by colleges and universities – particularly in the critical areas of mathematics and English language skills; and

- Incorporated end-of-course assessments to help assure consistent rigor and essential content across classrooms.

The most common objections to such policies are that: (1) More students will drop out of high school if all are forced to take difficult courses or pass high-stakes, end-of-course tests; (2) Students who are interested in technical or vocational postsecondary education may not need the college-preparatory curriculum; (3) It is not possible to recruit enough qualified teachers for widespread enrollment in college-preparatory courses; and (4) High-stakes exams are discriminatory and punitive, especially when many students have had inadequate opportunity to learn.

While many question the validity of some of these worries, such concerns clearly must be addressed. The bottom line is even more clear, however: stronger curriculum and assessment policies must be implemented – and implemented widely in order to achieve the desired level of educational opportunity and achievement.

High Quality Teaching

Widely accepted research now indicates that the quality and practice of the teacher in the classroom are perhaps the most important factors in increasing student learning. Most states are concerned with this issue, both because they want to increase the capacities of their teachers and because many face a serious shortage of teachers in the near future.

All of the usual reasons for being concerned about teaching capacity are compounded by the higher educational aspirations we have for the next generation. We have no reason to expect that the next generation of students will have a higher academic aptitude than earlier generations – they will almost surely resemble their parents. But we want and need them to be better educated. This cannot happen without more effective, more engaging teaching.

Teacher quality is a particularly salient P-16 issue because it is a joint product of the elementary-secondary and postsecondary systems. Postsecondary institutions are responsible for assuring that teachers: know the content they are responsible for teaching; know the research about effective teaching approaches; understand the connection between curriculum and assessment; can use assessment to improve learning; and have acquired the basic skills required for effective teaching. Postsecondary and K-12 systems should be jointly responsible for giving prospective teachers an extensive period of well-supervised practice to help them hone their skills in real classroom settings and for the continuing improvement and development of professional teachers.

No state has done all it needs to do in this area, but the most effective state policies and practices:

- Bring arts and sciences faculty, education faculty, and practicing teachers together to define more clearly curricular standards for student learning and for teacher preparation;
- Ensure that K-12 teachers have solid preparation in the subject matter they will teach as well as in basic principles of pedagogy – including an understanding of how children's cognitive development affects learning style and determines appropriate teaching methodologies in successive years;
- Ensure that baccalaureate degree candidates preparing for K-12 teaching careers have substantial apprenticeship teaching and mentoring opportunities that prepare them for challenges they will encounter in their own primary or secondary school classrooms;
- Provide adequate funding to ensure that such apprenticeship experience – like the clinical training experience of medical practitioners – is a core component of the training program rather than a weakly funded afterthought;
- Make effective use of student assessment data to gauge student learning progress and use feedback to help improve teaching and curriculum;
- Incorporate technology into curriculum and instructional practices on university campuses, helping ensure that future K-12 teachers experience directly the capacity of such tools to enhance teaching and learning at every level;
- Often make effective use of "soft money" for start-up initiatives that yield sustaining progress in building a culture of quality teaching in a state;
- Align key policies and practices with prevailing standards that have been developed for students and teachers.

The success of early outreach, the definition and implementation of curricular standards, and the success of students in meeting those standards depend fundamentally on the quality, capacities, and practices of teachers in the classroom.

Student Financial Assistance

Unlike K-12 education in the United States, postsecondary education is not free, and the price has been rising. We will not be able to increase successful participation substantially in postsecondary education if low-income students cannot afford to attend. Nor can we succeed if students with limited financial resources do not believe they can afford to attend early in their school career. Students need to know well in advance that adequate aid is available; without such confidence it is unreasonable to expect low-income students to exert the effort required to prepare for postsecondary education.

The federal government provides grants and loans for students, but the foundation of federal student aid is not sufficient to assure affordability without a state commitment. Some states have attempted to assure affordability by keeping tuition and fees low, but this strategy is becoming less and less viable – enrollments and costs are increasing faster than state revenues.

States are experimenting with student assistance programs, many of them quite creatively. In addition to removing economic barriers facing poor students, they have used student assistance to motivate and reward academic achievement, to encourage able students to enroll in state institutions, and to encourage stronger academic preparation for college. All of these are legitimate goals, and targeted student assistance may help advance them. But student financial assistance programs are expensive – states need to be certain that they are effectively and efficiently advancing the goals of greater participation and success in higher education.

The best examples of student assistance programs:

- Motivate students in grades K-12 to set high achievement goals and choose challenging courses to prepare them most effectively for college-level study;
- Are well-funded and highly visible – particularly to low-income students and their parents, who are most likely to be discouraged by the perception that attending college is beyond their means;
- Are closely integrated with federal and private aid programs;
- Reliably receive additional appropriations to cover increases in student costs;
- Fit the financial circumstances and educational goals of a wide range of students, including the most needy;
- Describe clearly the kinds of support that they provide students as well as the information that students and their parents will need to supply in the application process;
- Allow students reasonable freedom of choice, and enable them to transfer from one institution to another without major impediments;
- Are accountable and appropriate to the goals they serve, capable of being evaluated by policy goals that are clearly defined and well understood among state policymakers.

Some states have approached student assistance by creating many small programs with complex rules. These usually are inadequate to meet the need, expensive to administer, and confusing to parents and students. Such approaches are likely to hinder rather than help achieve the goals of greater participation and success in postsecondary education.

Recently a number of states have created or enlarged financial aid programs that consider high school academic achievement and/or taking the college preparatory curriculum as a criterion for receiving assistance. Such efforts to stress the importance of academic effort and achievement can play a very useful role in building the foundation for a successful P-16 system. It is vitally important to recognize, however, that both affordability and adequate preparation for college must be widespread in order to meet the educational aspirations of the American people. States will need to strike a balance among their investments in different types of student assistance, their investments in the quality of educational programs, and their financial capacity in order to meet their goals for postsecondary education.

Data and Accountability Systems

In most states the data and accountability systems for both K-12 and postsecondary education are poorly designed for the challenges of the twenty-first century. For most of the twentieth century student achievement was optional from the state perspective – those who achieved moved to higher education and those who did not found reasonably well-paying, lower-skilled jobs. Consequently, states rarely collected information about students and student achievement; that was left to the individual efforts of schools and colleges.

As educational aspirations grew late in the twentieth century, the K-12 standards movement and postsecondary education performance reporting substantially increased state-level data collection. Most states began by collecting aggregated information about the students in particular schools. This has been useful in identifying issues and problems, but it has not been entirely successful in generating improved performance. The strongest state systems for data and accountability are now working to give teachers and school leaders the tools they need to monitor and improve performance.

Exemplary state data and accountability systems:

- Establish standards for K-12 achievement that lead naturally and seamlessly toward the standards required for admission and success in postsecondary education;
- Track the performance of individual students throughout their educational career in ways that:
  - Permit teachers to diagnose and address learning gaps;
  - Enable school leaders to assess the performance of their school in terms of the later success of its students;
  - Enable school leaders to identify especially successful teaching techniques in order to expand their utilization;
  - Enable postsecondary leaders to assess their effectiveness in preparing teachers and school leaders; and
  - Enable policy makers to assess systemwide performance in order to find paths for improvement.
- Increase the commitment among stakeholders to collect, analyze, and use information on student performance.

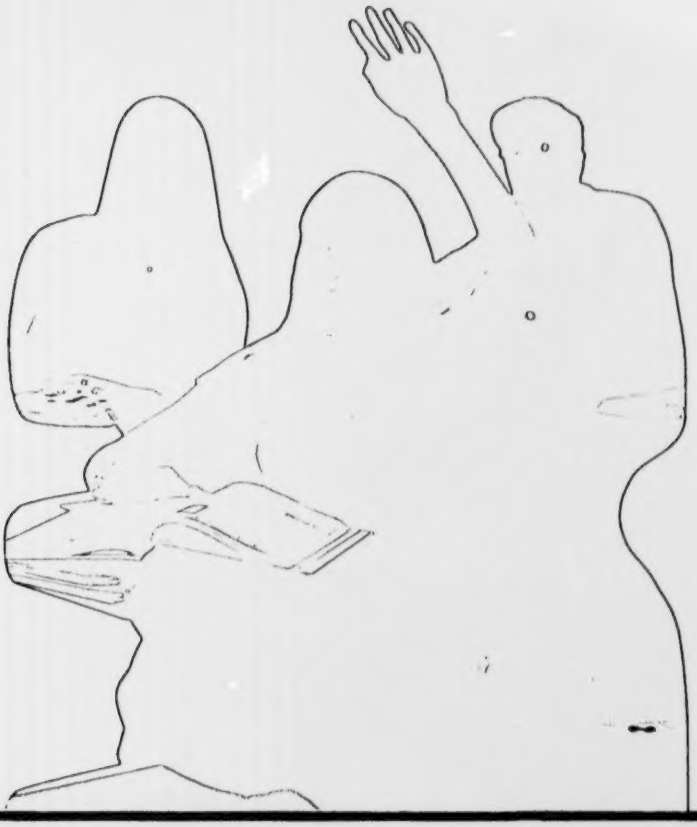
At best, successful accountability systems become more than reporting mechanisms. Good systems can be used to assess and improve K-12 achievement and lead to more students meeting the standards required for both admission and success in postsecondary education. And they can help build partnerships between K-12 and postsecondary education for aligning learning goals and educational strategies at each stage of the educational system.

Conclusion

These essays articulate what state educational systems can do, and perhaps what they must do, to enable the next generation of American youth to reach their educational goals. Collectively, they argue what is perhaps obvious: success in postsecondary education can become widespread only if the entire educational system – from early childhood through elementary school, high school, and college – is geared toward preparing and enabling students to become successful learners and workers at a high level of achievement.

Although these essays encourage systemic thinking and integration, they do not suggest a single "model" for each state situation. Enormous variation in structure and detail can exist within effective state systems – top-down mandates and bureaucratic uniformity have rarely produced educational excellence. If P-16 educators and policy makers agree on fundamental, substantive issues, states will be able to make real progress within their own traditions and structures.

Finally, these essays challenge states to make significant changes in policy and practice, but they do not suggest the impossible. Every state has the capacity to provide high-quality educational opportunities to every child and young person. We owe them no less.



Early Outreach

by Terese Rainwater and Andrea Venezia

Pre-college outreach programs were developed essentially to ensure that students who are traditionally underrepresented in postsecondary education have the same opportunities to attend and succeed in college as do students who are traditionally considered "college-bound." Young people whose parents possess relatively more wealth and education are far more likely to attend and succeed in college than are students whose families are not advantaged in those ways.[1] Pre-college outreach programs try to ensure that students enrolled in those programs have the opportunities and support necessary to prepare for, and succeed in, college.

While almost all high school students plan to attend college, students with more financial resources tend to have additional sources of information about the range of opportunities, academic preparation requirements, and the availability of student financial assistance. Students with those advantages are more likely to have:

- Parents who can help with studies or hire a private tutor if students have difficulty in school;
- Opportunities to visit a college campus;
- Teachers and counselors who view them as college bound;
- Schools with more resources; and
- The ability to pay for college in whole or in part, more information about financial aid, and more support with filling out the required financial aid paperwork.

Young people whose parents have *not* attended college and who are poor must often overcome the absence of *all* these supports in order to enroll and succeed in postsecondary education. Pre-college outreach programs work to

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compensate for these inequalities by providing academic tutoring, college visitation opportunities, a cohort of peers, high expectations, financial aid advice and counseling, and other related programmatic components.

The United States has a history of providing high-quality public education to a privileged elite. Early on in the nation's history, African American slaves were excluded from schools. Even as a broad system of public education emerged in the nineteenth century, in retrospect it is "clear that the system of public education that emerged in the United States was inherently unfair to Germans and the Irish, to Catholics and Jews, and, of course, to African Americans and Native Americans who were at first excluded from the common schools" (Hiner 1998). In the 1950s and 1960s, pre-college outreach programs were formally established to address these issues. Such programs were first supported by religious entities and foundations, and then, through the authorization of the Higher Education Act in 1965, also by the federal government. Literally hundreds of pre-college outreach programs are now financed by federal, state, and local governments, as well as by business, non-profits, and individuals. A few of these programs are described briefly in this paper, and more comprehensive descriptions of the field are available in other sources (i.e., The College Board 2001; Cunningham, Redmond, and Merisotis 2003).

Ideally, all students would receive the curricular opportunities, support, expectations, and information they need to prepare well for college simply by working hard to complete their K-12 schooling.

Since there are severe inequalities and capacity problems in our nation's schools, pre-college outreach programs will continue to play an important role in providing educational opportunity for the foreseeable future. It is clear, however, that these programs in themselves are not enough. Ideally, all students would receive the curricular opportunities, support, expectations, and information they need to prepare well for college simply by working hard to complete their K-12 schooling. Because the nation has not yet attained this ideal, there is a continuing need to support programs that are providing high-quality, essential services to students, while at the same time increasing the capacity of K-12 schools to provide all students the opportunity to prepare well for college.

The Purpose of this Paper

Throughout the country, pre-college outreach programs have tended to be ancillary units – efforts that are not an integral part of either postsecondary education institutions or state education policy structures. As John Tafel, Vice Chancellor for the Ohio Board of Regents, observed about the state's education systems, "Ohio was program rich and system poor" (Tafel and Eberhart 1999). This brief statement captures the essential problem still facing pre-college outreach in the United States. Special programs exist because the underlying educational system does not meet the needs of all students. This fundamental problem may be ameliorated with "add-on" efforts, but it cannot ultimately be solved without systemic change.

We believe that systemic reform – a comprehensive approach to embedding the best principles of excellent outreach programs in routine practice – is required because the scope of the need dwarfs the capacity of existing programs and any imaginable expansion of them. Our paper analyzes current pre-college outreach programs in a P-16 framework, asking the question: What could pre-college outreach look like in a P-16 education system? P-16 is defined here as an integrated system of education stretching from early childhood (the "P" stands for pre-kindergarten or pre-school) through a four-year college degree ("grade sixteen").

A central goal of P-16 is to raise student achievement by getting students ready for school, raising standards, "conducting appropriate assessments, improving teacher quality, and generally smoothing student transitions from one level of learning to the next" (Rainwater and Van de Water 2001). A theory behind P-16 reform is that aligned, coherent policies – from student transition-focused policies to teacher education and professional development programs – will create a more seamless education system that will allow all students to meet higher standards and move easily from one level to the next. A systemic approach to P-16 education offers the hope that all students will know what is expected of them as they transition from

We believe that systemic reform is required because the scope of the need dwarfs the capacity of existing programs and any imaginable expansion of them.

grade to grade – and that there will not be as big a division between secondary and postsecondary education as there is now.

The purpose of this brief is to consider how the principles and practices of good early outreach programs might be embedded in state educational systems. The paper will describe what we have learned from the characteristics of several programs, describe the components of typical outreach programs, describe and analyze a few examples of statewide efforts, and propose a means of working toward a more systemic approach to early college outreach.

What Research Says About Pre-college Outreach Programs

One of the unique problems facing pre-college outreach programs is the number of programs that exist, the significant length of time programs have been in operation, and the relatively small amounts of information researchers have about those programs. In fact, until The College Board released of the results of The National Survey for Outreach Programs (NSOP) in 2001, researchers were not sure how many programs existed nationally. Approximately 1,110 programs participated in the study, 465 of which were federal programs, including Upward Bound, Talent Search and GEAR-UP (Swail and Perna 2001). On average, programs have been operating for eleven years, with a multitude of goals and objectives regarding student and program success, and numerous strategies to achieve those ends. Included among program goals are that students should persist in high school, graduate from high school, improve high school grades, apply to college, attend community college, attend a four-year institution of higher education, and graduate from college.

In order to reach those goals, programs employ a variety of strategies. Programs recognize that gaining access and achieving success in postsecondary education require more than money. Research shows that reliance on financial aid for college access and completion does not provide students all they need for postsecondary success. Money is important but it is only part of the answer. As Perna and Swail (2002) write:

> [A] review of relevant research – plus the fact that gaps in access and completion have not been closed despite the resources the federal government has dedicated to closing them – suggest that merely making financial aid available for students to attend college is not enough to ensure that all students have equal access to the benefits associated with earning a college degree.

Perna and Swail also report that of those programs that participated in NSOP, 90 percent listed encouraging college attendance, college awareness and college exposure; 84 percent listed building students' self-esteem; 81 percent listed providing role models; and 73 percent listed college completion as important program goals.

What else is needed for pre-college outreach success? Recent research by Patricia Gandara (2001) sheds light on the components shared by the best pre-college outreach programs. Successful pre-college outreach programs have:

- A primary person who monitors and guides the student over time. This could be a teacher, mentor, counselor, or program director.
- Good instruction coupled with a challenging curriculum that is carefully tailored to students' learning needs.
- Long-term versus short-term interventions. The longer students participate in a program, the more benefits they report from having been in the program.
- Cultural awareness of students' background. Many programs find that they have more success with some groups of students over others. Establishing cultural connections with students may be due, in part, to staff background and experience.
- Positive peer support. Students are more likely to succeed when they have a peer group that provides academic, social, and emotional support.

- Financial assistance and incentives. For many low-income students who identify postsecondary education as a goal, scholarships and grants can make the difference between realizing that goal or not (Gandara 2001).

Research shows that reliance on financial aid for college access and completion does not provide students all they need for postsecondary success.

The components listed above provide policymakers and educators with an idea of the attributes shared by successful programs, but there are several gaps in the research. Gandara lists one: research is unclear whether one kind of professional – a teacher, guidance counselor, or mentor – has more success with students than another. Researchers also do not know empirically the impact of each component on students either individually or in combination (Swail and Perna 2001). Does having a mentor, financial aid, and longevity in a program produce better results than having quality instruction, challenging curriculum and peer support on student success? Or is the presence of long-term programs the most important component? Researchers also seek to discover the number of students who qualify for outreach programs versus the number of students who are able to participate. Perna and Swail (2002) report that "although 11 million American are eligible for services through TRIO programs, only 5 percent of those eligible are being served due to limited federal funding for these programs." How many students qualify for but cannot participate in pre-college outreach programs? Finally, research is unclear about when students should begin participation in a program. Are students who begin pre-college outreach programs in seventh grade more successful than students who begin in the ninth grade?

Given the magnitude of needs that pre-college outreach seeks to address, we believe that more research needs to be done so that K-12 education systems can learn from successful outreach programs and embed effective practices into schools systemically. The next section outlines attributes of some major programs.

Components of Existing Outreach Programs

Table 1 lists a variety of types of programs. It is not an exhaustive list, nor is it a perfectly representative snapshot of the types of programs currently in existence. Rather, it provides basic information about some of the largest programs, and programs from the case study states.

Our survey of the Pathways case study data included a broad range of programs, including GEAR-UP, I Have a Dream, the Oklahoma Higher Learning Access Program, and the Children's Crusade of Rhode Island. The students served in every case are educationally and economically disadvantaged, beginning in some cases as early as third grade, though most target students in the middle and high school years. In some cases the lead agency is federal; in other instances a state or regional government provides funding and oversight; and some are operated and supported by non-profit organizations.

The components of the programs are as varied as the goals they seek to achieve: they include tutoring, mentoring, counseling, parental involvement activities, curriculum and staff development, and financial aid. Some of the most comprehensive programs, such as the El Paso Collaborative, incorporate many attributes of systemic perspective, including whole-school reform, teacher professional development, accountability, technical assistance, and parent support.

There is a great deal of variability of services, in terms of content and duration, provided by pre-college outreach programs. Most programs identify a cohort of students and provide supplemental tutoring and activities geared toward college preparation. Some, such as TRIO, offer relatively intensive opportunities, start later in a student's life and do not connect to schools as much as the Children's Crusade or the El Paso Collaborative, for example. Others, such as GEAR-UP, are not as intensive, but can start earlier in a child's life.

One key element is evaluation. Of the programs listed in *Table 1*, two had enlisted the help of an external evaluator, and three others had been evaluated by an external group. While external evaluations might not always lead to program improvement, they are a good indicator of whether or not programs are getting the information they need to understand how well they are serving students' needs. One example of an external evaluation is that conducted for Rhode Island's Children's Crusade.

Table 1

Inventory of Some Major Pre-college Outreach Programs [2]

Program Name and lead funding agency	**Students Served/Scale**	**Systemic/Programmatic** Affecting an entire school or system across grades and subjects / Focused only on selected students	**Components of Program**
GEAR-UP Federal and state funding	Middle school students from traditionally underrepresented families. Serves whole grade levels of students beginning no later than grade 7 and continues through grade 12. In 1998-1999, there were 102 programs, with an average of 2,585 students served per program.	Combination – a program that focuses on systemic change for a limited group of students. Does not affect change in an entire school or district.	K-16 partnerships. Programs include: comprehensive services (tutoring, mentoring, counseling), parental involvement activities, curriculum and staff development, financial aid, postsecondary education information, college preparation, counseling, and college visits.
TRIO Federal funding	Economically disadvantaged, first-generation college, and disabled students. In 1998-1999, there were 363 TRIO programs, with an average of 425 students served per program.	Programmatic	Includes Educational Opportunity Center, McNair Post-baccalaureate Achievement, student support services, talent search, partnership program, staff training, Upward Bound (including math and science).
Project Grad Non-profit	Affects 57 urban schools and approximately 34,000 students in Houston; 25,000 students in 15 schools in Los Angeles; Atlanta program will eventually reach out to 16,000 students; numbers not available for sites in Columbus, Nashville, and Newark.	Programmatic	Scholarships, MOVE IT Math, Communities in Schools, Success for All, consistency management and cooperative discipline. Focuses on creating a solid foundation in reading and math, self-esteem development, providing resources, and offering scholarship support.
I Have a Dream Non-profit	Economically disadvantaged elementary schools (continues through college). In 1998-1999, there were 26 programs with an average of 121 students served per program.	Programmatic	Mentoring, tutoring, enrichment.
El Paso Collaborative State and regional funding	Students in El Paso's three large local school districts (approximately 86 percent of those districts' schools). Over 160,000 students in three urban and nine rural districts are served by professional development, leadership, policy, parental engagement and other systemwide initiatives (PK-16) supported by the El Paso Collaborative for Academic Excellence.	Systemic	Standards-based, aligned assessment and standards, whole school reform, teacher professional development, teacher preparation, aligned policies K-16, clear accountability, technical assistance, administrator professional development, district support, parent support and education, and outreach to business and civic leaders.

Table 1 (continued)

Inventory of Some Major Pre-college Outreach Programs [2]

Program Name and lead funding agency	**Students Served/Scale**	**Systemic/Programmatic** Affecting an entire school or system across grades and subjects / Focused only on selected students	**Components of Program**
Early Academic Outreach Program (CA) State funding	Educationally disadvantaged students in California. Approximately 85,000 students served.	Programmatic	High-level curriculum, academic advising, test preparation, residential programs, Saturday Academies.
Mathematics, Engineering, and Science Achievement (MESA -- CA, AZ, CO, MD, NM, OR, UT, and WA) State funding	Educationally disadvantaged students and students from groups with low eligibility rates for four-year colleges. Serves elementary grades through college. In 2001-2002, MESA served the following numbers of students: 24,854 pre-college students in California, 3,030 in Colorado, 4,500 in New Mexico, and 4,935 in Washington. Oregon has served over 5,000 students total. Utah is currently serving over 3,000 students. No numbers were available for Arizona and Maryland.	Combination – a program that focuses on systemic change for a limited group of students. Does not affect change in an entire school or district.	MESA classes, summer programs internships, career and academic advising, student conferences, Saturday Academies, mathematics and science competitions, tutoring and mentoring, teacher professional development, parent workshops and conferences, student workshops and conferences, and student leadership development.
PUENTE (CA) State funding	Educationally underserved students (54 community colleges and 36 high schools). Cumulatively, Puente has served approximately 20,000 students directly and 280,000 indirectly.	Programmatic	Teaching, counseling and mentoring.
College Reach-Out Program (FL) State funding	Educationallydisadvantaged, low-income students in grades six through twelve. In 1998-1999, 7,869 students were served.	Programmatic	Motivate students to pursue college, develop basic skills, strengthen student and parent understandings of the benefits of college, and supplemental instruction.
Oklahoma Higher Learning Access Program State funding	Economically disadvantaged eighth, ninth, and tenth graders (families must earn under $50,000). Calculating the cumulative number served (for the classes of 1996-2006), 28,620 students have been/are being served.	Programmatic, combined with some systemic GEAR-UP activities.	Helps students pay for college and requires them to take 17 units of college preparation curriculum, maintain a 2.5 GPA or better, complete homework, not do drugs, use alcohol, or commit crimes, attend advising sessions, apply for other financial aid, and attend program activities.

Table 1 (continued)

Inventory of Some Major Pre-college Outreach Programs [2]

Program Name and lead funding agency	**Students Served/Scale**	**Systemic/Programmatic** Affecting an entire school or system across grades and subjects / Focused only on selected students	**Components of Program**
Children's Crusade (RI) Non-profit with state and federal funding	Economically disadvantaged students in grades 3 through 12. Approximately 17,000 students have been reached by the Crusade. Approximately 500 students/year currently go through the program.	Combination – a program that focuses on systemic change for a limited group of students. Does not affect change in an entire school or district.	The Crusade offers different components for each grade level. These include: before and after school literacy activities, tutoring, community service, diagnostic testing and exam practice, college visits, identification of colleges, college application support, advising, college planning, attendance and grade monitoring, and weekend and summer sessions.

Very few of these programs can be called systemic in the sense of being fully embedded in schools or colleges. Only one could be classified as truly systemic in nature – the El Paso Collaborative. Three showed evidence of combining programmatic and systemic approaches – GEAR-UP, MESA, and the Children's Crusade. The others offer more programmatic services to students.

Some of the state-level efforts are described in more detail in the next section.

State-Level Pre-college Outreach Efforts

State programs in Florida, Oklahoma, and Rhode Island provide different models for pre-college outreach that can be helpful in considering the components of a more systemic approach. For each state program identified below we discuss the program goals, target populations, means of funding, eligibility criteria, and other factors that warrant consideration.

Florida

In 1983, the Florida Legislature established the College Reach-Out Program (CROP).

The program's purpose is to motivate and prepare educationally and economically disadvantaged students in grades six through twelve to pursue and successfully complete postsecondary education.

CROP participants are students who otherwise would be unlikely to seek admission to a community college, state university, or independent postsecondary institution without special support and recruitment efforts. Factors used to determine student eligibility include: the family's taxable income; family receipt of temporary assistance under the Work and Gain Economic Self-Sufficiency (WAGES) Program in the preceding year; family receipt of public assistance in the preceding year; the student's cumulative grade point average; the student's promotion and attendance patterns; the student's performance on state standardized tests; the student's enrollment in mathematics and science courses; and the student's participation in a dropout prevention program.

CROP serves approximately 9,300 students through ten state universities, twenty-six community colleges, and seven independent postsecondary institutions. Funds are appropriated by the Legislature to the Department of Education and allocated competitively to postsecondary institutions around the state.

Community colleges, universities, and independent postsecondary institutions that participate in the program must provide procedures for continuous contact with students from the point at which they are selected for participation until they enroll in a postsecondary education institution. Program activities must support the following goals: (1) Motivate students to pursue a postsecondary education; (2) Develop students' basic learning skills; (3) Strengthen students' and parents' understanding of the benefits of postsecondary education; and (4) Foster academic, personal, and career development through supplemental instruction. In addition, each program must have an evaluation component that provides for the collection, maintenance, retrieval, and analysis of data required by the state.

While Florida's CROP program is of limited size, it appears to have many of the crucial components of pre-college outreach programs and policies in place, including: well-defined goals and objectives for statewide pre-college outreach; and systematic ways to identify and target students, collect student data across segments, allocate funds, evaluate programs, and report data.[3]

Oklahoma

In 1992 Oklahoma established the Oklahoma Higher Learning Access Program (OHLAP), which is a centerpiece of its outreach efforts. OHLAP is a systemic program that seeks to increase student preparation for and participation in postsecondary education through a college scholarship incentive. In the following year Oklahoma also began implementing a systematic effort to use the Educational Planning and Assessment System (EPAS) series developed by ACT to provide widespread, voluntary, diagnostic testing in English, math, reading, and science reasoning to students in grades eight and ten. In addition to OHLAP and EPAS, Oklahoma, with GEAR-UP support, recently launched a broad program of public outreach, using mass marketing techniques to increase awareness of college.

EPAS is designed to help schools align curriculum, evaluate instructional programs, use student achievement data to improve college success, and prepare all students for postsecondary opportunity. In 1993, four school districts participated in the EPAS program. In 2001, 244 school districts and thirty-seven private schools participated in the program. The use of EPAS has helped students improve their preparation for college, increased their enrollment in college preparation courses, and improved their performance on college admissions exams. In addition, more students of color who participate in the EPAS program are planning to go to college. EPAS and the public outreach programs benefit all students in the state and are especially helpful in reaching students with limited access to information and help in preparing for college.

OHLAP's original design was to reach primarily economically disadvantaged students in urban centers. As the program came to enjoy to a broader state commitment, its target expanded to include students whose family income is $50,000 or less. Recent changes to OHLAP eligibility have produced large gains in student participation. In the 2000-2001 school year – and the first year available to students whose family incomes are $50,000 or less – almost 9,500 students enrolled. The OHLAP Year-End 2000-01 report noted, "nearly as many students enrolled in OHLAP in one year as the first eight years of the program combined (9,500 for 2000-01 compared to 10, 800 total for 1992-93 through 1999-00)." (Year-end report 2000-01) This report also noted nearly 50 percent of the first cohort of OHLAP students (1996 high school graduates) completed college in comparison to 33 percent of all first-time, full-time first-year college students (Mize and Fair 2002).

Supported largely by state funds but partially by federal GEAR-UP dollars, the program offers full tuition at a public two- or four-year institutions or a partial scholarship at an accredited private college or university. The program pays only for the hours in which students are actually enrolled and is available to students for a maximum of five years.

In order to ensure that OHLAP students are prepared for college-level work, participating students must complete a 17-unit core curriculum which includes the following classes: four years of English, two years of laboratory sciences, three years of math, two years of history, one year of citizenship skills, two years of foreign language or computer technology, two additional units from any of the subjects previously mentioned, and one year of fine arts or speech. To qualify for the scholarship students must enroll in the eighth, ninth, or tenth grade and meet several program requirements, including:

- Complete the seventeen-unit core curriculum based on college admissions requirements;
- Graduate from high school;
- Maintain 2.5 GPA or better in the required core in high school;
- Maintain 2.5 GPA or better overall in high school;
- Complete required homework;
- Attend school regularly;

- No drug or alcohol use;
- No criminal acts;
- Family income must not exceed $50,000; income is not reevaluated after initial eligibility is determined (Mize and Fair 2002).

The Oklahoma early outreach program does not provide intensive services to substantial groups of students, but more than many state efforts, it has a "systemic" feel. Its EPAS and public outreach efforts reach virtually all students, and OHLAP is available to all students with financial need who work to meet the program requirements. These statewide initiatives are supplemented by local programs, which provide more direct services to individual students.

Rhode Island

In 1990 the Rhode Island Commission for Higher Education promoted the creation of the Children's Crusade, arguing that a substantial public commitment is necessary to increase access to higher education for poor children (Brandeis University 2002). The goal of the Crusade is to increase the number of poor students successfully enrolling in and completing a postsecondary program by providing a long-term intervention beginning in the third grade with programmatic supports (mentoring, tutoring, etc.), coupled with a strong state commitment in the form of tuition incentives. The Crusade is a nonprofit organization supported by multiple funding sources including state and federal dollars.

From the first year of the program until the 1995-96 school year (when all qualifying third graders could participate), enrollment grew from 2,800 students annually to over 3,300. In response to an audit that stated the Crusade was "impossibly large" and would not be able to meet its scholarship commitments, the Children's Crusade was redesigned to meet the needs of 500 students annually in the most economically distressed school districts. In addition, the Crusade moved from primarily a "mentoring" model with a few other support services, to an intervention model based on developmentally-oriented, highly individualized student programs supported by a wide array of options, including summer enrichment camps, scholarship counseling, and tutoring (Brandeis University 2002).

The Children's Crusade is unique among pre-college outreach programs for several reasons. First, since its inception the program has had a strong postsecondary education component. In addition, the Crusade has emphasized the importance of starting college preparation early in a student's academic career by beginning in the third grade. The Crusade has also undertaken an independent external evaluation, made the findings of that evaluation public, and responded to the evaluation by creating a publicly available strategic plan. Finally, The Crusade is responsible for creating the College Access Alliance of Rhode Island (CAARI), a network of Rhode Island programs that seeks to increase postsecondary opportunity and access for all of the state's students.[4]

The Crusade is an interesting model because it evolved from an initial broad statewide commitment to young students to a more intense but less systemic commitment to 500 students. Since the Crusade was downsized over time, its evolution suggests an important question: Can we discover ways to incorporate the techniques developed in the Crusade in all schools so that the education system is more successful for all third-grade students in Rhode Island?

Some of the states we examined have a number of pre-college outreach programs, or widespread education reforms that attempt to link K-12 and postsecondary education; in the two instances that follow we describe general characteristics of programs in California and reforms in Oregon. This information may be useful for states embarking on wide-scale reform.

California

California has a very diverse population of students, and a relatively tumultuous policy environment in which K-12 assessments and other reforms change frequently, depending on the governor or political party in power. The status of pre-college outreach programs reflects the overall nature of education policymaking in California. There are dozens of programs, with a variety of funding streams, goals, objectives, and populations of students being served. For example, the University of California (UC) System runs approximately fifteen pre-college outreach programs and partnerships, not including individual campus-based efforts. These include:

1. Student-centered programs that provide tutoring, mentoring, academic preparation, college counseling and other services directly to K-12 students;

2. School partnerships that offer curriculum development, direct instruction, community engagement and other assistance to many of California's lowest-performing schools;
3. Professional development programs to increase the skills and effectiveness of teachers and administrators;
4. Programs that help community college students plan for transfer and advise students about graduate and professional school study.[5]

In 2001, more than 97,000 students participated in UC-led student-centered programs, nearly 100,000 teachers were served by the professional development programs, and UC-school partnerships extended to 256 California schools. More than one-half of UC's partner schools are elementary schools, and more than one-fourth of all students participating in UC outreach programs are below the ninth grade. These programs have played a role in preparing students for college enrollment: participants in UC outreach programs now account for 30 percent of African American UC freshmen and 33 percent of Latino UC freshmen. Both the California State University and the Community College System run their own pre-college outreach programs, and there are numerous not-for-profit programs throughout the state as well.

The number of programs and the number of students involved in them is an indicator of the energy and commitment devoted to early outreach in California. But it is important to place these data in the context of the demographics of the state. According to the 2000 census, California has 6.9 million youth between the ages of five and eighteen. Of the state's population, 26 percent are born outside the U.S., 39 percent have a language other than English spoken in the home, 46 percent are white, non-Latino, and 14 percent of the population (4.8 million people) live below the poverty line. The huge size and continuing growth of California make it especially urgent that educators and policymakers find ways of using the accumulated knowledge of these programs to reach more students.

Oregon

The 1983 publication of *A Nation at Risk* raised concern about student performance nationally and called for higher standards and greater accountability. Oregon responded by re-thinking its educational system and developing in 1984 the "Oregon Plan for Excellence." This plan contained the seeds for the 1991 Oregon Educational Act for the Twenty-first Century, legislation that mandated the development of the current standards, assessments, and certificates. Important legislation from that act includes the authorization of benchmarks for all students, assessed in third, fifth, eighth, tenth, and twelfth grades; the Certificate of Initial Mastery (CIM), issued after grade ten; and the Certificate of Advanced Mastery (CAM), issued after grade twelve.[6]

In reaction to the 1991 legislation, the Oregon University System (OUS) developed the Proficiency-Based Admission Standards System (PASS) to reform the admission process for Oregon's public universities. The goals of this reform were to ensure that students meet a high standard of academic preparation prior to matriculation into an OUS institution, and to develop an admission system that focuses on proficiencies rather than time spent in a classroom.

Although the CIM, CAM, and PASS have different histories, philosophies, and overall goals, they are often viewed as part of the same education reform package. They are, however, two distinctly separate, but interrelated, sets of reforms. Philosophically, these reforms could create a system in which all students are prepared for college or the workforce (through the completion of a CAM), and most if not all are prepared for college (by meeting PASS proficiencies). The reality, however, is different, since development of the Certificate of Advanced Mastery (CAM) has stalled multiple times, and PASS has been implemented in approximately sixty schools with two to four teachers being trained per school (Bueschel and Venezia 2001).

Oregon's experience illustrates the challenges of systemic reform. While a detailed analysis of the Oregon experience is beyond the scope of this paper, one clear lesson is that systemic reform will take persistence and time.

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The Problem with the Status Quo: Areas of Concern and Obstacles to Change

A major problem already discussed in this brief is that the current focus is on programs and not on systems. Another central issue facing pre-college outreach programs is determining whether or not they work. Who is served? How well are they served? Are more students college-ready? Are more students enrolling in and completing postsecondary education? Compounding this problem is a lack of program information. There are few rigorous, independent, program evaluations. One external evaluation cited in this policy brief, by Brandeis University for Rhode Island's Children's Crusade (2002), summarized challenges many evaluators face:

> How to define a "Crusader experience" presented a stubborn problem for this evaluation. No Crusade cohort has received consistent treatment every year, and even within cohorts there are significant differences in Crusaders' experiences. Programs offered one year by community service providers might or might not have been repeated the next year. Sites have changed. Some Crusader programs report difficulty meeting their recruitment goals and acknowledge that Crusaders may participate in other, non-targeted programs. The nature of the individual supports have also changed year to year.

While these are definitely evaluation problems, it is difficult to tell how these changes have impacted students and the overall goals of the Crusade. The evaluation continues: "But it is the seventh-grade cohort that shows us whether the Crusade holds promise in the long run as a college access strategy for Rhode Island; whether the new strategy – with its myriad adaptations to individual lives and needs – appears to be developing in a positive way." Even though the variations made it a difficult program to evaluate, the evaluation's overall view of the Crusade is positive: "If one had to project the likelihood of success from institutional flexibility and growth, and reported enthusiasm of its 'new' lead cohort, it is hard not to bet on this organization."

The Crusade stands out because it had an external evaluation conducted, and it used that information for program improvement, but this process also points to an inherent tension. In order to conduct rigorous and useful evaluations, evaluators need good, longitudinal, consistent data and intervention strategies. Programs, on the other hand, need to have a level of professional autonomy and flexibility to meet the needs of individuals. We can not solve that tension here, but we do believe that programs must reconcile these issues so that they can be evaluated, improve their practices, and be sure they are serving students well.

While external evaluations might not always lead to program improvement, they are a good indicator of whether or not programs are getting the information they need to understand how well they are serving students' needs.

Program variability is not necessarily an inherent weakness, and it might not be possible to have a model of best practices. But pre-college outreach programs must hold themselves accountable for results with a rigorous, visible system for measuring outcomes. They must improve over time, and it is reasonable to compare similar programs with each other.[7]

Currently, there are many evaluation-related problems in the field. These issues have been cited throughout the literature on pre-college outreach programs; many of the programs share similar obstacles and problems (Gandara 2001, Tierney and Hagedorn 2002). These shortcomings are often due to a lack of resources, and many of these issues are well-documented. They include:

- The fact that students who need services may not be reached;
- A programmatic structure that cannot change whole school, system/district, or state cultures because of its limited focus;
- Programs selecting students who show "promise" instead of working with all students or focusing on students who have the greatest need;
- The failure of programs to articulate their goals and objectives in measurable ways;
- Lack of rigorous evaluations;

- Difficulty in comparing sites within one program because there are different goals, objectives, and other characteristics;
- Lack of good data collection procedures and methods of tracking students after they leave the program.

This latter oversight is particularly problematic for programs that focus on getting students to college; they often do not know if their students were academically or psychologically prepared for college.

Another major issue before policymakers and educators is to examine data from key student transition points in their states. A first step in this direction is to examine areas of student transition from pre-school through postsecondary education and calculate real and unmet need. Depending on the state, the data reveal different policy issues. For example, in Georgia and Oklahoma, for every 100 students that begin the ninth grade, only eleven will complete a postsecondary degree. On the surface, it appears that these two states have the same problem, and indeed both states may seek to address the number of students who successfully complete their degrees. A more in-depth look at the data suggests that the end of the student pipeline is not where these states should concentrate their policy efforts. In Georgia, for every 100 students who begin the ninth grade, fifty drop out before high school graduation (Ewell, Jones, and Kelly 2003). The problem in Oklahoma is different and manifests itself in the number of high school graduates enrolling in postsecondary education. For every 100 students who begin the ninth grade, thirty-six will not go to college even though they have graduated from high school (Ewell, Jones, and Kelly 2003). The message here is that one solution does not fit every state. States need to examine their data to find areas of success, existing gaps, and unmet needs.

In a true P-16 system, public education is constructed from the point of view of the student – not the practitioner or administrator.

A New Way of Thinking About Pre-College Outreach

Conceptualizing, developing, implementing, and evaluating pre-college outreach programs that are part of a broader P-16 system is important because the approach to student learning becomes one of student success over time, as opposed to piecemeal programs in which students are treated for impending "failure." It is the difference between prevention and stopgap after-the-fact efforts. In a true P-16 system, public education is constructed from the point of view of the student – not the practitioner or administrator. Therefore, from the student's perspective, how does the system look different? It would have the following characteristics:

- The gaps in knowledge, skill, and ability levels from one grade to the next are reduced.
- The need for college-level developmental, or remediation education, is diminished.
- The student can trust that she will be prepared to enter the next grade ready to succeed.
- Students do not need to guess how to get into college, how much college costs, or how to meet these costs. They learn about those issues throughout the course of their K-12 years and are thus able to make educated choices about their futures.
- Students do not need to guess what courses they need to take to prepare well for college.
- Students have college mentors and advisors at each level of education; every teacher is a college advisor; every school counselor is an advocate for equitable opportunities throughout K-12 and for student success after high school.
- Student achievement is addressed throughout K-12, and also in the critical early years – pre-K-3. In these years, students learn the basic skills that they will apply in later grades. In short, these fundamental skills are literacy based. From K-3 students learn how to read, after third grade students read to learn."

Comparing programmatic responses – efforts that do not reach all students – to systemic reform could look like this:

Examples of Programmatic and Systemic Policy Responses

Programmatic		Systemic
Tutoring	→	High quality curriculum and instruction
Mentoring	→	All educators trained to mentor
Cultural sensitivity	→	Cultural and individual sensitivity
Evaluation	→	P-16 data collection, usage, and accountability
Programmatic/ local policies	→	State policies with flexibility for local needs
Annual testing	→	Diagnostic assessment
Remediation	→	High standards and college preparation opportunities for every student

In short, an ideal pre-college program would not be a program at all. Rather, it would be a coordinated, cohesive, seamless system of education in which all students are prepared for postsecondary opportunities. This does not mean that 100 percent of high school graduates will or should go to college. It does, however, mean that 100 percent of students who graduate from high school will be prepared to go to college if they so choose, and will be able to make informed decisions about their futures. In many ways, pre-college programs are a response to a system that is not working. There should be no need to extend outreach to a few students; all students should be prepared to go to some form of postsecondary education. However, that is a description of an ideal world that we might never see. While we struggle with these issues in the real world, it is important to support pre-college outreach programs that provide high-quality essential services to students, while at the same time working to ensure that all students have the opportunity to prepare well for college.

Who needs to be involved? Every sector of education must be involved; ideally, this should not be a set of reforms driven from the top down. While many pre-college outreach programs are sponsored by postsecondary institutions, some institutions and systems of postsecondary education continue to behave as though they are completely separate from the public school system. Teachers must seek not only to help students learn the subject material at hand but also to prepare students for postsecondary success; pre-college outreach must be based in rigorous curriculum; state structures must be in place to support quality teaching; financial aid must be available for students to take advantage of postsecondary education; and educators must be held accountable for student results with data-driven diagnostic and accountability systems. The sectors are all connected.

Policy Recommendations

What steps are needed for a state to progress from a programmatic to a systemic approach to pre-college outreach? Below are two sets of policy recommendations – one for the short term and the other for the long term. This paper proposes that states move away from programmatic outreach programs and toward systemic state systems; however, it is not proposing an elimination of programs until all students are served well. Since that day may be long in coming, some form of pre-college outreach programs will be needed. The recommendations listed below account for these issues. In this time of economic scarcity, it is crucial that states view college preparation and P-16 reform as investments – investments that can help drive state economies and improve the quality of people's lives.

Short-term recommendations:

- Engage K-12 and postsecondary education in a discussion regarding P-16 reform; develop goals and a set of desired outcomes. Plan a strategy to meet those goals.
- Develop a clear message and stick to it (an example is the Education Trust's College Begins in Kindergarten).
- Develop a public engagement strategy regarding P-16 reform and outreach.
- Establish recognizable, transparent, and predictable policies between education sectors. Achieving this goal will require working with postsecondary education to ensure, for example, that its entrance standards are clearly articulated.
- As a state pursues its P-16 work, it must develop, or continue to support, pre-college outreach programs to assist students during the implementation of P-16.
- Develop and implement diagnostic testing programs based on high standards for all students.

- Have measurable, articulated goals and objectives.
- Mandate that all state-funded programs collect relevant data and conduct external, rigorous evaluations.
- Use evaluations as diagnostic tools that improve services offered to students and increase student success.
- Fund evaluations, and provide technical assistance to programs.
- Involve the business community early.

Long-term recommendations:

Watson Scott Swail and Laura Perna, in The College Board's *2001 Outreach Program Handbook*, proposed four long-term policy recommendations that are consistent with this paper's perspective. They are:

- Ramp-up current outreach activities to reach more of our youth.
- Improve the instructional quality and delivery of outreach programs.
- Expand opportunities for networking among programs.
- Link outreach programs directly to our schools and long-terms systemic plans.

We also add the following:

- Address course-taking patterns; make sure all students have access to college preparatory classes and are prepared for the next stage of schooling. For example, students must participate in algebra by the end of eighth grade.
- Improve data systems at the state level. States need to connect their K-12 and postsecondary data systems together, and connect those with data systems from large-scale pre-college outreach programs. Evaluations must be conducted both in the short term and in the long term. States must be able to answer the questions of how the pre-college outreach programs help students today and how they help students fifteen years from now.
- Improve data systems at the programmatic level. Pre-college outreach programs must collect data on their students and analyze the data to understand if they are achieving their goals and serving students well. As with state-wide data systems, evaluations must be conducted both in the short term and in the long term by programs in order to improve their effectiveness.
- Work with education programs, unions, and associations to train teachers and counselors in ways that make it possible for them to include effective college preparation and advising in every high school classroom.
- Once good evaluations are completed, use that information to change state policy, by eliminating what does not work and incorporating what does into the education system as a whole.

Summary

Preparation for, and participation in, postsecondary education for all students is a difficult proposition to fulfill. There are educational inequities that result from different perceptions about who should go to college, who is prepared for college, what it means to be college-ready, and whether college is affordable. In addition, the current early childhood, K-12, and postsecondary systems are disjointed and often connected only by policies and programs that are confusing for students and their parents. Currently, students' opportunities to learn and prepare for college are inequitable; since almost all students attend college after high school, it makes no sense to continue to prepare only an elite group of students for the demands of postsecondary education.[9]

There are hundreds of programs, but no system, or center; thus, the programs place the burden of improvement on the student with comparatively little concern for how the system itself might change to meet students' needs. The lack of sound evaluation compounds these problems by making it difficult to assess whether or not the programs are truly meeting students' needs.

A P-16 system with a focus on pre-college outreach for all students would be more focused on prevention and success than is the current system. Success in this context means ensuring that all students who graduate from high school would have the information and preparation they need to succeed in some form of postsecondary education. In order to fulfill the purpose of preparing all students for the opportunity to participate in postsecondary education, states will need to move beyond a programmatic approach to a more systemic approach encompassing every student in every school. A cautionary note is essential, however: a worst-case scenario would be for states to reduce their support for pre-college outreach programs while not improving and coordinating their current educational systems.

While the need for pre-college outreach programs will probably never be eliminated, this paper urges states and regions to include components from successful pre-college outreach programs (e.g., providing college admissions and course placement information to all students, and ensuring that all students have access to college preparatory courses and tutoring) in every student's day-to-day schooling experiences. Addressing pre-college outreach systemically may be more difficult in the short run, but it is the only way to serve all students equitably. In spite of, or precisely because of the fact that states face shrinking budgets, this is an era that requires us to rethink our current approach to pre-college outreach, and develop new ways of providing postsecondary information and opportunities for all students.

In order to fulfill the purpose of preparing all students for the opportunity to participate in postsecondary education, states will need to move beyond a programmatic approach to a more systemic approach encompassing every student in every school.

Endnotes

[1] See, for example, Mortenson (2000), Gladieux and Swail (1998), Horn and Chen (1998), Berkner and Chavez (1997).

[2] The following websites were used for this table:
www.ed.gov/gearup/,
www.ed.gov/offices/OPE/HEP/trio/,
www.projectgradusa.org/,
www.ihad.org/,
www.aypf.org/forumbriefs/1999/fb010899.htm,
www.epcae.org/,
www.pewundergradforum.org/project8.html,
www.ucop.edu,
http://studentservices.fgcu.edu/CROP/,
www.okhighered.org/ohlap/, and
www.childrenscrusade.org/.

Also used were: The College Board 2001; Communication Works, LLC 2002; and The Canadian Millennium Scholarship Foundation 2003.

[3] http://studentservices.fgcu.edu/CROP/.
[4] www.collegeaccessri.org/about.htm.

[5] www.ucop.edu

[6] Recent policy changes have shifted the focus from grade level performance to overall benchmarks. Rather than grades three, five, and eight, the assessments refer to benchmarks one, two, and three.

[7] An exception is Mathematica's longitudinal study of Upward Bound. Although this study showed that participants generally have higher expectations, "Upward Bound appeared to have no impact high school graduation or college enrollment." See Myers and Schrim (2000).

[8] Pre-college outreach programs that start as late as the third grade have started too late. Students who are not on grade level reading by the end of the first grade are unlikely to be on grade level reading by the end of third grade, and if they are not on grade level reading by the end of third grade their chances of graduating from high school are slim. See Juel 1988; Slavin, Karweit, and Wasik 1993.

[9] See, for example, Venezia, Kirst, and Antonio 2003.

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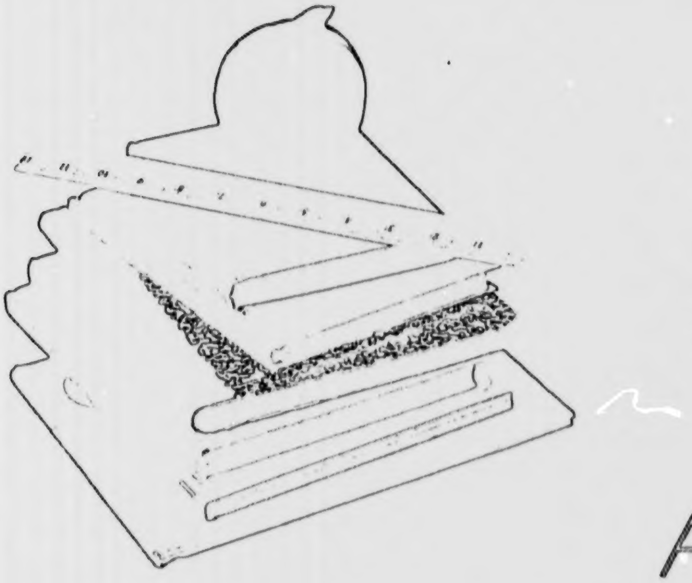

Curriculum and Assessment Systems

by Janis Somerville and Yun Yi

Fueled by a new labor market that places a high premium on knowledge and skills, the appetite of young Americans for postsecondary education has reached record levels. In the decade of the 1990's alone, the college-going rate of recent high school graduates increased by almost twenty percentage points. Currently, over 75 percent enroll in some form of postsecondary education within two years of high school graduation, and national surveys of younger students and their parents suggest that, in the years ahead, 90 percent of high school students plan to earn a college degree (United States Department of Education 1998).

Unfortunately, increased college access has not yielded a commensurate increase in degrees completed. During the same ten-year period when college entry increased by twenty points, degree completion increased by only nine percentage points. For minority students, the gap between college access and success was even greater. The college-going rate of African Americans increased by twenty-one percentage points over the decade, but degrees completed increased by only seven points. Among Latinos, the fastest growing of all minority groups, college going fluctuated during the decade, with a net increase of only 2 percent and completion rates that actually declined.

The problem, of course, is not new. There has always been a difference between the number of students entering two- and four-year colleges and the number completing a degree. What is new is the sheer number of young people caught in the middle and the economic consequences for them. Until now, however, the debate has centered less on what to do about this problem and more on where to place blame.

Aligning K-12 and Postsecondary Expectations: State Policy in Transition[1]

High schools , and students themselves, present the most convenient targets. Indeed, there is some evidence that while more students are taking "college prep" courses, the academic standards and effort expected in those courses may have slipped. Confronted with such criticisms, however, high school leaders are not wrong to ask in response: How can they be expected to prepare students adequately for higher education when colleges and universities cannot reach consensus among themselves about what constitutes college readiness?

Lacking clear guidance from educators on root causes, policymakers frequently find themselves tackling the symptoms. For example, when faced with the increasing costs of remedial courses for students who arrive in four-year colleges underprepared, they may use policy levers to "reduce" those costs by prohibiting remediation at four-year colleges. The effect is to relocate the problem – and the students – to "lower-cost" community colleges, but not to solve it. Indeed, by increasing the number of transitions for students, these very same policies may well make college completion rates worse.

Somewhere along the way, most higher education leaders as well as policymakers appear to have resigned themselves to the notion that low rates of college completion and widening gaps among groups are the inevitable price of maintaining access – the best, in other words, that higher education institutions or their students can be expected to achieve.

Somewhere along the way, most higher education leaders appear to have resigned themselves to the notion that low rates of college completion and widening gaps among groups are the inevitable price of maintaining access.

Fortunately, however, a growing number of state education leaders actively reject this line of thinking. These leaders, who hail from both higher education and K-12 institutions, are challenging the long-standing assumptions that allow so many students to exit high school unprepared for further education. Sure, they say, these practices may have been acceptable in the old economy. But they are not acceptable in an era when individual success and societal well-being depend so much on knowledge, skills, and the ability to benefit from further learning opportunities.

Together these leaders are identifying root causes of the current disconnects between their systems that are causing students to falter and fail. And they are seeking out bolder strategies to yield the big improvements needed in achievement, kindergarten through college.

Why Now? The Economic Imperative

More than ever before, the fastest-growing and the best-paying jobs go hand in hand with higher skills and education. More than two-thirds of those in the growing, good-paying jobs have some postsecondary education, and this rate is projected to increase substantially. By 2008, the total number of jobs requiring advanced skills is predicted to grow twice as fast as those requiring only basic skills (United States Department of Labor 2000a, b).

It is not just the white-collar jobs that are experiencing increased skill requirements. In today's labor market, most occupations, including those traditionally conceived as lower-skilled occupations such as sales/service and blue-collar jobs, now demand greater skill and education levels from workers. Over the past twenty-five years, the total number of workers with at least some college education has nearly doubled, while the number of workers in traditionally lower-skilled jobs with at least some college education more than tripled (Carnevale 2000).

As the knowledge and skill demands of the new economy have increased, there is increasing consensus among economists (and among families) that virtually all young people need the knowledge and skills necessary to benefit from postsecondary education – both on the job and in formal postsecondary institutions. In short, whether a student progresses from postsecondary education to a job, or to a first job which ultimately leads to enrollment in postsecondary education, *all* students need high-level academic knowledge and skills associated with college preparatory studies (National Commission on the High School Senior Year 2001).

Taking Action, P-16: Aligning High School Graduation and College Entry Expectations

The K-12 standards movement offered an opportunity to address this problem head on. The core idea was to establish a single set of rigorous academic standards to which all students in a state would be educated. These standards would create a framework for state assessments that would both measure individual student achievement and enable policymakers and the public to examine the effectiveness of individual schools in teaching their students.

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high school students remain subject
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for students to learn.

But the promise of standards to refocus high schools on the goal of equipping all students with the core academic skills necessary to succeed in postsecondary education has gone largely unfulfilled. Why? The standards movement in K-12 was underway before most policymakers or educators fully realized how rapidly the demands of the workplace and postsecondary education were converging. As a consequence, higher education was not a partner in the standard-setting process. Yes, nearly every standard-setting commission had a professor or two. But they were there largely as disciplinary experts, not as representatives of their universities, and not armed with the collective consensus of their colleagues on the skills and knowledge that entering college students should have. Consequently, high schools and high school students remain subject to multiple sets of signals on what is important for students to learn.

Aligning Standards and Assessments

During the last part of high school, most students find themselves taking at least three sets of high-stakes assessments. Though each more or less attempts to measure the student's learning in high school, they are largely uncoordinated with each other. The first set consists of the state high school standards-based assessments required in most states for graduation. In contrast to other countries, however, these tests do not count for college admission; students take another set of exams for that purpose. And finally, in most two- and four-year public colleges there is a third set of "placement" tests, which is to most students a largely invisible hurdle. These tests are administered after a student enters college, and performance determines if a student will be able to enroll in college-level study.

For many young people each of these hurdles is scary. But few realize just how high the stakes are, especially on the college placement tests. Many will find out – too late to do anything about it – that what they and their teachers don't know about the college tests can indeed hurt them.

Several researchers as well as policy organizations like the State Higher Education Executive Officers (SHEEO) and the Education Trust have stressed the critical need for states to come to agreement on a single system of standards and assessments that is rigorous enough to prepare students for college-level study.[2] Such a system would help students avert the unseen gaps in expectations that are implicit in the different tests. Already, a few systems and states are moving on this issue. But most have yet to act.

Course Requirements Affecting High School Students: Critical to Improvement

Lining up curricular expectations may, however, be even more important. Students who take more college-preparatory courses are much more likely than other students to master the skills and knowledge necessary to succeed in postsecondary study. Not surprisingly, they perform much higher on college placement tests. Moreover, recent research makes it very clear that the single most important determinant of whether students succeed in college is the "quality and intensity" of the curriculum they take in high school (Adelman 1999). However, many students, including many bound for higher education, do not take a high-quality curriculum during their high school years.

In most states, statewide boards of education specify the courses students need to complete in order to be awarded a high school diploma. Logically, these course requirements should be driven by the academic standards that virtually all states have now set. In truth, however, many of these requirements were set well before the standards process was even contemplated, and they have not been revisited since. As of 2002, some forty-two states specify at least the minimum number of courses students must complete in each content area (most of these also allow districts to add to that minimum). The remaining eight states leave this decision entirely to local school districts (Council of Chief State School Officers 2001).

State board policy is not the only factor affecting decisions made by high schools and high school students, however. Higher education institutions also require their entering students to complete specified courses during their high school years, although in many states they have not reached a consensus on college preparatory curricula. In thirty states public four-year colleges have reached a consensus on the minimum number of courses – and often the topics of those courses – that students must complete in each discipline to be ready for college-level study. In the remaining states, individual colleges set their requirements.

> At the very least,
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Bringing course requirements for the high school diploma into line with state standards is an important step; however, it won't be enough unless K-12 and higher education come to agreement on a rigorous course of study that will both enable students to meet state standards and assure that they are equipped with the skills and knowledge for further study. At the very least, the two systems must agree on a course of study in the two disciplines – mathematics and English language arts – that mediate success in all other areas of study.

Do K-12 and Higher Education Agree? Data Collection

For the past five years the National Association of System Heads (NASH) and the Education Trust have supported a network of K-12 and higher education leaders from over twenty states as they have worked to raise achievement and close gaps among different groups of students in grades K-16. A key focus of the cross-state collaboration has been to develop a clear understanding of the components of a policy strategy to align K-12 and college standards and practices for students.

In the summer and fall of 2002, with support from the U.S. Department of Education, and the Education Trust, NASH staff conducted phone interviews with K-12 and higher education officials and researched the Web sites of state education agencies in all fifty states to gather state curriculum requirements for high school graduation and college entry/admissions. In each state, we looked at what K-12 required – both in terms of the number of courses and the subject matter. We then compared that with the requirements from statewide higher education institutions within the state (Somerville and Yi 2002a).

What We Found

1. **Very Little Consensus Between K-12 and Higher Education:** In almost no state is there consensus across the two systems on the courses students should take in high school. The two systems are closer together on the numbers of courses required than on topics. And they are closer in some subject areas than others. But in most states, even students who follow all the rules in high school have no guarantee of meeting postsecondary education's course requirements.
2. **Higher Education – The Missing Partner:** Higher education is arguably the most remiss in achieving consensus on curriculum requirements. In many states, institutions of higher education have yet to come to agreement on either numbers of courses or topics (even for reading comprehension, writing, and mathematics) to clarify the path necessary to be prepared for college-level study.
3. **Too Much Variation, Even Among High School Graduation Requirements:** But there is also a surprising – indeed, almost stunning – amount of variation among states in their K-12 graduation requirements, with some states clearly having responded much more aggressively to the changes in the workplace.

These were problems pointed out some twenty years ago in the report entitled, *A Nation at Risk* (National Commission on the High School 1983).

- In mathematics, for example, some states do not require even that students complete algebra 1, while others require also geometry and algebra 2/ trigonometry. Indeed, some state *K-12* systems ask for more advanced mathematics coursework than do the *higher education* systems in other states.
- In science, some state K-12 boards require no laboratory science courses at all, while others require two or even three.

And interestingly, the states that have taken the most decided action on these issues are not necessarily the ones that are thought of in reform circles as "advanced" states.

Why Do These Differences Matter?

Because not all students will – or should – end up in a four-year college, one might reasonably ask why we should care about any differences between K-12 and the college sector. The answers here are simple.

1. Students who complete a full college preparatory curriculum are less likely to require remedial coursework in college.

Many recent high school graduates are arriving at college, diploma in hand, but woefully unprepared. Since the time that *A Nation at Risk* turned a spotlight on the low requirements of high school curricula, there has been progress, but not nearly enough. Many states have increased curriculum requirements, and a full 47 percent of recent high school graduates now complete the number of units recommended in that report. However, that number is far shy of the 75 percent-plus of high school graduates continuing to postsecondary education. Even that percentage difference understates the problem, for accumulating a set number of course units does not guarantee that students have been taught the content that characterizes a typical college-preparatory course of study.

As a consequence, one of every two college students lands in what are essentially high school-level courses – remedial, non-credit bearing courses aimed at helping students learn the basic skills in reading, writing and/or mathematics that students should have mastered in high school. If this remediation consists of a brush-up course or two, the consequences in terms of eventual graduation are not severe. However, students who need three or more classes have a slim chance of ever completing a degree. Remediation appears to be a major factor in explaining why over one-quarter of all students who enter four-year colleges and more than 40 percent of those who enter two-year colleges do not return even for the second year (Adelman 1998).

Accumulating a set number of course units does not guarantee that students have been taught the content that characterizes a typical college-preparatory course of study.

The biggest factor in whether students actually get a college degree is the quality and intensity of the high school curriculum, not their grades, not their SAT or ACT scores.

2. Even in "open admissions" institutions there are hidden hurdles for students who have not completed a college-preparatory curriculum

Students bound for two-year colleges often take only the minimum number of courses required for high school graduation in the mistaken belief that what they take in high school does not matter. But while two-year colleges may appear to be open admissions with no course or other requirements for admission, in fact many of the actual programs to which the students seek admission are at least as selective as those of four-year colleges.

Moreover, even students who are not aiming at these more selective programs must take and pass placement tests before they are admitted to credit-bearing courses. Unbeknownst to many students, these tests typically assume completion of a set of courses similar to those required for admission to four-year colleges. The freshmen who do not pass these tests are enrolled not in the college-level work they expected to take, but in high school-level "remedial" courses.

3. Completion of a rigorous college preparatory curriculum is the single most important predictor of who will complete college.

In a careful study of high school and college transcripts, researchers at the U.S. Department of Education have proved what many long believed to be true: that the biggest factor in whether students actually get a college degree is the quality and intensity of the high school curriculum. Not their grades, not their SAT or ACT scores: what matters most is in fact the coursework they took in high school. And this goes for all groups of students – regardless of racial/ethnic background. Adelman (1999) has shown that the college graduation rates increase for all students who took a strong high school curriculum. In addition, the gap among racial/ethnic groups narrows significantly.

4. Benefits Beyond College

Finally, a host of recent studies makes it clear that the college-preparatory curriculum confers benefits far beyond college:[3]

- Student skills and knowledge grow far more in rigorous college-preparatory courses than in other courses. This is true even for bottom-quartile students.

Table 1

Summary of a More Detailed Look at Mathematics

High School Graduation Course Requirements:	***College Admissions Course Requirements:***
Following are current statewide course requirements in mathematics for a high school diploma:	Thirty states have statewide course requirements for admission into college. The following are current statewide course requirements in mathematics for college admissions:
The Numbers • 8 states have no statewide requirements • 17 require two years • 23 require three years • 2 require four years	*The Numbers* • 21 have no statewide requirements • 0 require two years • 25 require three years • 4 require four years
By Topic • 8 states have no statewide requirements • 26 specify number but not topic • 16 require at least algebra 1 – of these, 8 require above algebra 1 – of these, 2 require algebra 2	*By Topic* • 21 states have no statewide requirements • 1 specifies number but not topic • 28 require at least algebra 1 – of these, 8 require above algebra 1 – of these, 20 require algebra 2

Within-State Alignment:

- 10 states have K-16 agreement on at least the number of mathematics courses students should take in high school;
- 1 state (Oklahoma) has reached K-16 agreement on both number and topic.
- 10 states have K-16 agreement by topic on at least algebra 1, but higher education requires more;
- 4 states have K-16 agreement by topic on at least algebra 1 and geometry, but higher education requires more;
- In 2 states, Alabama and Texas, the K-12 system requires all students to complete algebra 1, geometry and algebra 2 – the courses that, nationally, are normally required for admission to college. In effect, then, they are probably "aligned." However, in those two states, there are no statewide (or even system) higher education course requirements for all freshmen.

- Students enrolled in the more rigorous courses do not have increased failure rates; in fact the rate of failure in such classes often declines. Yes, some students will fail the more difficult courses, but interestingly, they fail less often than when placed in lower-level courses.
- In addition, recent studies of the skills and knowledge that employers need in the workplace show with increasing clarity that employer expectations look very much like those in higher education. Given the requirement for the continuous upgrading and updating of skills in today's workplace along with the extent to which employers rely on higher education, especially two-year colleges, to provide that training, this convergence is not particularly surprising (Carnevale 2000).

Such studies suggest that whether a graduate is headed immediately or eventually to postsecondary education and training, mastering the necessary skills is no longer just an option. It is essential.

Closing the Requirement Gaps: A Quick Overview of Key Differences by Discipline

Any action to close the gaps students often confront in curriculum requirements best starts with an analysis of the gaps themselves. While there is considerable variation among states (see Table 1), following is an overview of the central tendencies by discipline nationally.

- **English/Language Arts**: Pretty consistent agreement on number of courses, and on the need for students to take this "every year." Higher education is, however, clearer on the need to emphasize writing skills.
- **Mathematics:** Most state K-12 systems require two to three years of mathematics coursework; most higher education systems require three years. But the two domains are farther apart on topics, with almost all of higher education requiring at least algebra 1, geometry and algebra 2, while most K-12 systems require only algebra 1 or geometry.
- **Science:** Most state K-12 systems require two to three years of science, and only a few require even one of those courses to be a laboratory course. By contrast, where higher education specifies coursework in science, it pretty consistently requires at least one laboratory course, and sometimes two or even three.
- **Social Studies:** Years of study required do not typically differ. Further, both levels place an emphasis on history.
- **Foreign Language:** About half of the state higher education systems which specify a college-preparatory curriculum require students to take high school coursework (typically two years) in a second language. Only a handful of state K-12 systems require any "second" language at all. Others include language study as one among several options.

State Policy Lagging Behind Student Behavior – And Good Sense?

A quick look through both national and state course-taking data makes one wonder why, especially as mathematics becomes increasingly important in the workplace, states are so loathe to accelerate their expectations of all students. In the most recent year for which national data are available, for example:

- Over 95 percent of all high school seniors had completed at least algebra 1 by graduation;
- 74 percent of all high school seniors had completed at least algebra 1 and geometry by graduation;
- 62 percent of all high school seniors had completed at least algebra 1, geometry, and algebra 2 by graduation.

And some states are even more successful in getting students through the "gatekeeper" algebra 2 course, with more than 75 percent of seniors in eight states, more than 62 percent of the seniors (at or above the national average of students taking algebra 2) in nineteen states and 50 percent of seniors in over twenty-six states completing at least algebra 2 (Council of Chief State School Officers 2001).

Some argue, of course, that since the assessments required for high school graduation rarely get beyond algebra 1 and some geometry, why put students through the extra pain of learning that more advanced content? Yet here research is clear. First, if students don't complete the more advanced mathematics, they will forever be excluded from math-based fields, in college and in the workplace. Second, even if expectations are more modest, the data clearly suggest that students do not actually master one level of mathematics until they engage with the content at the next level.

What About Quality Assurance?

Course requirements have limitations. The fact that a course is labeled algebra 1 does not assure that it teaches the right content. Often times, the algebra that students learn in courses with the same name does not necessarily match with what colleges and businesses expect. Nor does course completion necessarily translate into student mastery of the content. To address these problems, some communities and whole states have incorporated end-of-course assessments to help assure consistent content rigor and essential content across classrooms (Somerville and Yi 2002b).

> The fact that a course is labeled algebra 1 does not assure that it teaches the right content.

Once standards-based education has taken hold in both K-12 and higher education, we may be able to dispense with all these course requirements calibrated by chunks of time in Carnegie units. When standards succeed in replacing courses as the measure of achievement, educators can focus more directly on assuring that students gain the knowledge and skills that courses are supposed to provide. Moreover, when the assessments that measure student achievement come to be aligned between K-12 and higher education, students will receive a clearer set of signals at every stage, allowing them to learn and demonstrate proficiency at their own pace. Until then however, any gaps between the courses that K-12 requires for graduation and higher education requires for admission can have devastating implications for students. We need a rigorous academic core curriculum for all students. It does not have to be taught in the same old ways, but it does need to be taught to all.

The Good News – States on the Move

1. Optional State College Preparatory Curriculum/ Advanced Diploma

Some states have begun by defining an optional curriculum/advanced diploma plan that aligns the number of courses required for high school graduation with those required for college admissions and specifies the courses necessary to be well prepared. The key then is to increase systematically the proportion of students meeting the new aligned requirements. Unfortunately, in many cases the K-12 and collegiate sectors have not agreed on even the optional requirements.

2. Rigorous Core Preparatory Curriculum for All

Within those states that have established an optional college-preparatory course of study, some local school districts, such as San Jose in California and Houston in Texas, have stepped ahead by eliminating the low tracks and placing all students in the more rigorous recommended curricula. The data reveal that their actions are paying off big time in such measures as rising test scores and the increasing number of students taking rigorous courses. Texas, at the urging of its business leaders, is going statewide. Effective fall 2003, the low-level diploma track will be eliminated, and the recommended curricula will become the "default" for students entering high school. (Somerville and Yi 2002b) .

Lining up a Single System of Standards and Assessments: High School Graduation and Placement into College-Level Study

New York has had in place for over seventy-five years an optional Regents diploma for college-bound students. A few years ago, as they moved to implement a statewide system of standards and assessments for all students, state leaders decided to make the well-regarded Regents exams the standard for all high school graduates. As these were introduced, the City University of New York (CUNY) determined that students who performed at a high level on the Regents in mathematics or English language arts could waive the CUNY college placement tests and begin college study without remediation. Similarly, in Missouri, students who do well on the state's high school examinations are eligible for free dual enrollment in college-level courses while in high school.

A multi-state partnership called the American Diploma Project led by four national organizations – Achieve, Inc., The Education Trust, Thomas B. Fordham Foundation, and the National Alliance for Business – is working with five states to better define the standards and assessments required to meet the needs of higher education and the workplace. States involved in this effort are: Indiana, Kentucky, Massachusetts, Nevada, and Texas.

At least a dozen states have mobilized teams of faculty in the disciplines, starting with mathematics and English language arts, to review the content of their college admissions and placement exams along with the new standards-based high school assessments. More should soon be joining New York and the rest of these states with a more seamless system to help students make a smooth transition from secondary to postsecondary education and today's high performance workplace.

Endnotes

[1] This paper draws upon data collection and analyses prepared with support from the Education Trust, The Pew Charitable Trusts, and the Office of Vocational and Adult Education/U.S. Department of Education.

[2] See for example Venezia, et al. 2003; also, David Conley Director, The Standards for Success project website: www.s4s.org.

[3] Recent studies include a powerful set of studies and research briefs led by Gene Bottoms of the Southern Regional Education Board (SREB) as part of the High Schools that Work initiative. In particular, see Bottoms (2002). See also Hallinan (2002) and Sum (1999).

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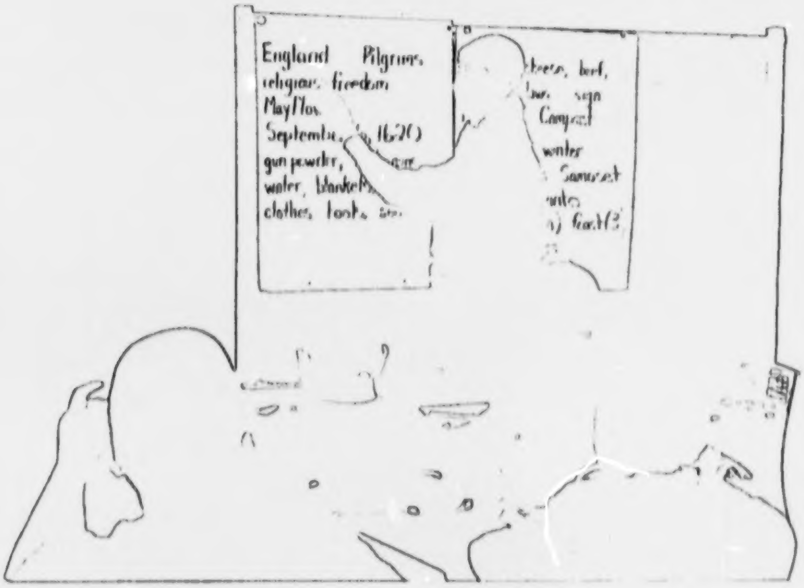

High Quality Teaching

by Edward Crowe

As the United States continues to grapple with challenges associated with student learning and student achievement gains in our K-12 system, part of the problem often derives from policies and practices concerning current teacher quality. Systemic reforms in the way our nation recruits, trains, supports, and licenses teachers are essential if students are to acquire the knowledge and skills they need. Even though federal policy under the "No Child Left Behind" legislation of 2002 has received great attention, the fact remains that authority and responsibility for teacher quality resides generally with the states. The governance and financing of public higher education is also a state responsibility. Even the nation's independent colleges and universities, although not governed by states, are subject to state laws and regulatory policies that affect their teacher preparation programs.

Teacher supply, demand, and quality issues are appropriately regarded as state-level issues – particularly in the era of the Elementary and Secondary Education Act (ESEA), which requires state testing of K-12 students. Numerous reports and commissions continue to say that much more needs to be done to ensure that every student has a caring, qualified, and competent teacher. Since most new teachers in the United States will continue to be produced by college and university preparation programs, state higher education systems have the opportunity and the responsibility to use the policy levers available to them to reform our teacher preparation system.

The premise of this State Higher Education Executive Officer (SHEEO) policy brief is that teacher quality improvement efforts are more likely to be effective when they take place in the context of a statewide P-16 agenda. Higher education systems, state agencies, and institutions are important players in a state's teacher preparation system. But many other entities have significant roles, including state departments of education, professional standards boards, regional and local K-12 agencies, legislators, governors, and community groups. Through this web of organizational relationships and the matrix of P-16 issues touched on below, it is possible for committed leaders and organizations to meet the promise of excellent teaching for every child. Drawing on the experience of many states, this report will suggest ways that states can set and meet challenging teacher quality policy goals.

On the basis of SHEEO P-16 site visits to five states as well as many other sources of information and experience, it can be said with certainty that there is no secret formula for success. Knowing what to do is *not* the missing ingredient. What is lacking is rather the political will to begin the change process and sustain it over a long period of time. The will to change is also a rare commodity. This policy brief will highlight key issues, strategies, and policy levers. Along the way it will point to states or systems implementing what appear to be good policies and practices. Recommendations and suggestions to states will be made to guide or jump-start effective reforms. Some emerging issues that create opportunities for – and pose significant threats to – higher education will also be considered.

Why does this work matter? Research published in the last few years makes a compelling empirical case that the quality of teaching has a profound and lasting effect on K-12 student learning. If teachers do, in fact, make a difference – as most parents and students have always believed – and if most new teachers in the United States will, for the foreseeable future, come from college and university preparation programs, then the higher education community has a wonderful opportunity to make good on the promise of providing future generations of Americans with the quality education they need to succeed. The problem is that so little improvement has actually occurred in the preparation of teachers. The hope is that by acting systemically, states can do better so children will do better.

This alignment of student and teacher standards is a basic building block of coherent state policy.

What is High Quality Teaching?

States that are making progress on giving every child access to excellent teaching usually start with a firm focus on K-12 student learning goals and challenges. Generally it is the standards for these students and their performance on assessment tests that frame a state's policy approach to improving teaching quality. North Carolina, for instance, has set school performance and improvement goals based on student assessments. Equipping teachers and administrators with the knowledge and skills they need to be effective in this context has led to system-wide and campus-based teacher preparation program reforms. In Louisiana, a realistic view of what all students are able to do – matched up with what education and business leaders believe they ought to be able to do – is driving a comprehensive teacher quality policy effort.

Teachers need both a thorough command of their subject(s) *and* a deep understanding of how to teach content to all kinds of students with different learning styles.

The next step is to think clearly about the skills and abilities teachers need to help students achieve at high levels. This alignment of student and teacher standards is a basic building block of coherent state policy. A robust definition of high quality teaching makes all the difference here. The recent report of the National Commission on Teaching and America's Future (NCTAF), *No Dream Denied: A Pledge to America's Children* (2003), offers a comprehensive definition of high quality teaching (www.nctaf.org). While there is ongoing national debate (see Paige 2002) about whether a mastery of subject matter in itself can produce good teaching, most states recognize that teachers need both a thorough command of their subject(s) *and* a deep understanding of how to teach content to all kinds of students with different learning styles. A state that has reached some consensus about the elements of high quality teaching can then begin to audit its educational policies to see how the definition is embedded in:

- Licensing standards
- Teacher tests
- Preparation program approval criteria
- Induction program design
- Content of the teacher preparation program
- Professional development policies and practices

How Can States Take Steps to Promote High Quality Teaching?

State policies on teacher quality should be built on core elements of excellent teaching and the preparation of high quality teachers. These descriptors of high quality preparation apply to traditional and "alternative" programs, even if the programs have different ways of incorporating elements of quality into their design.

Prospective teachers must develop a strong foundation of knowledge in the subjects they are preparing to teach.

- College and university preparation programs must do much more to ensure that their graduates have mastered content knowledge in the subjects they will teach.
- State higher education policy can help make it possible for arts and sciences faculty to be deeply involved in program redesign and implementation, in close collaboration with education faculty.[1] At the same time, senior campus leaders must be strongly committed to the success of this collaboration.

Teacher candidates must also learn how to teach their subjects; the science of child development and how children learn ought to be mastered and tested before candidates are licensed. This should also be at the core of mentoring and induction programs.

- Developing and acquiring these skills calls for close partnerships between higher education institutions and schools.
- It also requires engagement of arts and sciences faculty.

One component of quality teaching is that teachers understand and know how to use student assessment data to gauge a student's progress in the classroom. Teachers must be able to integrate this information with their content knowledge and teaching skills to develop strategies that respond to individual learning needs.

- The integral role of data in assessing teaching and learning entails new strategies for collecting and sharing this information between schools and preparation programs. Preparation programs must build continuous improvement mechanisms that are driven by regular use of these data.
- Making sure that decisions are based on evidence requires greater collaboration among all faculty engaged in preparing teachers, as well as closer ties between the program and schools where students are assessed.
- Decisions based on evidence can only be made through improved accountability systems at the state level that generate and share the relevant information.
- Each of these steps calls for rethinking university policies and practices in ways that must be led and supported by institutional leaders.

Without the integration of knowledge and skills achieved in a carefully supervised clinical practice setting, the education and training of new teachers is incomplete.

Student teachers need well-designed and extensive clinical experiences so that the issues and challenges of effective teaching are not surprises to them when they enter the profession as new teachers.

- A real school-university partnership built on mutual respect and shared goals is crucial.
- The Carnegie Corporation emphasizes in *Teachers for a New Era* (2001) that: "Excellent teaching is a clinical skill... Clinical practice in schools takes place in complex public environments and entails interaction with pupils, colleagues, administrators, families and communities... Exemplary teacher education provides for clinical education in a clinical setting."
- Without the integration of knowledge and skills achieved in a carefully supervised clinical practice setting, the education and training of new teachers is incomplete.

- The lack of clinical skills and solid clinical experience also feeds the high levels of burnout and turnover found among new teachers throughout the country.

The effective integration of technology into curriculum and instructional practices on the university campus and in the school classroom is essential for teachers to know and use technology successfully in their teaching and assessment practices.

- Among other things, incorporating technology calls for professional development for university faculty, access to technology by faculty and students, and appropriate curriculum redesign to make effective use of technology in teaching, learning, and assessment.
- An important result of progress in this area is the potential for technology, used wisely, to increase student engagement in learning, promote greater access to high quality content and curriculum materials, and foster more effective learning by K-12 students through these and other means.

Successful teaching practices develop over time, so new graduates need extensive mentoring and support for the first few years of their careers. Many observers believe that these programs are an investment to reduce high rates of teacher turnover and to promote teacher career development.

- Successful mentoring and induction programs require close collaboration between higher education and K-12 schools.
- Higher education must be willing (and funded) to accept extended responsibility for program graduates. This principle applies equally to all alternate pathway providers.
- Redesigned school practices are also needed to foster effective mentoring.

Many state licensure systems now recognize the importance of this novice period in the new teacher's career by establishing mentoring and induction periods, with an initial or provisional license granted. The idea is to promote skills development and effective support strategies. Some states even fund these programs so that new teachers have compensated time away from the classroom to reflect and consult the mentor, in addition to periodic performance assessments of their growth and development. University-based preparation programs are being asked to take on extended responsibilities during this stage of the new teacher preparation process, and good school-university partnerships are quite important to the success of this undertaking. They cooperate with each other – and often with state assessment officials – to assess the teaching performance of these new graduates and help them be successful.

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now recognize the importance of
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Program accountability should apply to all parts of the university involved in teacher preparation. Meaningful accountability is based on outcome measures used to determine whether the program is producing high quality teachers; the specific rewards and sanctions that will be applied to the program; how these accountability measures will apply to all units involved in teacher preparation activities, including arts and sciences as well as education; and the role of senior university leaders in implementing accountability policies.

- *Teachers for a New Era*, drawing on the work of Sanders and others (1995, 1996; Wright et al. 1997), requires its grantees "to evaluate the ongoing effectiveness of the teacher education program based in part on evidence of pupil learning that has occurred under the tutelage of teachers who are graduates of the program." This is meaningful accountability because it promotes the use of real outcomes data for diagnostic and program improvement purposes.
- As more states develop the information system capacity to link student testing data with information about the teachers of each K-12 student, it will be possible to do a better job of measuring

program strength by the learning gains of students taught by program graduates. The Elementary and Secondary Education Act (ESEA) will advance the day when this linkage is possible in every state through its focus on regular testing of K-12 students.

- The federal Title II "report cards" for institutions and states are a start in the accountability process, but serious efforts to use these and other data are needed by states, higher education institutions, accrediting bodies, and school districts.
- Additional information available through the National Council for Accreditation of Teacher Education (NCATE) and the Teacher Education Accrediting Commission (TEAC) – in addition to the information gained from examining the K-12 student performance of program graduates – all provide invaluable insights for designing continuous improvement strategies.

P-16 is Essential for Teacher Quality Improvements

The SHEEO P-16 case studies examined six issue areas in each of the states visited during the 2001-02 academic year. While the policy focus of this strategy brief is teacher quality, how states deal with the other five issues can make a big difference to the success of teacher quality policy initiatives.

Early outreach programs require quality teaching at all levels of the system to be effective. Students who need early outreach programs are often enrolled in schools that do not get – and cannot keep – the best teachers. Stronger content knowledge, pedagogy and clinical skills delivered by the state's preparation programs are essential to institutionalize the benefits of early outreach activities. Over time students who benefit from successful early outreach programs can be strong recruits into teacher preparation programs.

Curriculum and assessment reform driven by commitment to standards-based education also depends on teacher quality improvements for good results. Alignment of student and teacher standards, a precondition for effective teacher preparation, is necessary here as well. The use of assessments as diagnostic tools at the school and classroom levels is crucial, and teachers must be able to shape their teaching to meet the needs of students with a variety of learning styles and ability levels.

Data and accountability systems are essential to understand how the current system does – or more likely does not – produce high quality teachers able to help all students be successful. Good data systems can track K-12 student transitions across levels of the system, enabling policymakers to detect and address problems that may relate to teacher preparation, professional development or support systems.

Financial aid programs often are used to attract new candidates into teaching. The proliferation of small programs with a huge range of policy objectives, however, can work at cross-purposes with other state goals. Financial aid inducements to prospective teachers overlook the impact on teacher retention that good preparation and better working conditions can have.

State leadership is crucial to success. It is a key causal agent of effective reform in every state that makes progress on the teaching quality issue. There are many challenges here, including initial engagement, staying power and the impact of leadership transitions on policy continuity. The many states where leadership involvement in teaching quality is manifested primarily by rhetoric would do well to look to the states where real engagement and significant reform have occurred.

Strategies and Policy Levers: What States and SHEEO Agencies Can Do

Look at the Data

A good starting point is to evaluate what state policymakers know about the status of teaching. Relevant data include: supply and demand information in the aggregate and by subject areas and grade levels; teacher turnover; the extent of out-of-field teaching; and the incidence of waivers, "emergency" or "temporary" certificates, and other means by which state rules have been bypassed to meet shortages. Quality issues are also part of the status of teaching: pass rates, classroom performance, and program quality are important indicators. The federal Title II report cards (www.title2.org) are a good resource.

Some states are serious about teaching quality and accountability issues. North Carolina has an annual report card produced by its public university system with an extensive set of measures that deal with production and quality of teachers. Louisiana has constructed an accountability system that relies partly on the federal data but also brings important state data to bear. Institutional performance has funding and other consequences in that state. Maryland's Student Outcome and Achievement Report (SOAR) system and other information from a variety of agencies enable P-16 leaders to have a comprehensive understanding of teacher quality and student learning issues in their state.

K- or P-16 partnerships appear to be successful forums in many states for dealing with teacher quality policy issues. SHEEO agencies have been active and essential components of these efforts in many states, and there is potential for even greater involvement along these lines. These groups have proven to be good places for discussions about data that lead to agreement on strategies and next steps for teacher preparation reform. Louisiana's Blue Ribbon Commission is a good example, as is the Maryland K-16 Partnership. Georgia, Ohio, and other states also provide examples and lessons.

> Relevant data include supply and demand information; teacher turnover; the extent of out-of-field teaching; and the incidence of waivers, "temporary" certificates, and other means to meet shortages.

Engage arts and sciences faculty

While SHEEO coordinating boards have fewer direct levers to stimulate campus-based action than do their governing board counterparts, there are ways to raise the issue of arts and science faculty engagement in teacher preparation. Review and approval of degree programs, periodic program review activities and "technical assistance" in the form of conferences, P-16 meetings, and direct advice to campuses are all tools used by SHEEO agencies. Arkansas, for example, convened the heads of all mathematics and science departments at their institutions of higher education – meeting together for the first time ever – to brief department chairs on state K-12 student learning standards and the implications for teacher preparation programs, professional development courses, and continuing education activities within the institutions. Other states – including North Carolina, Georgia and Louisiana – have initiated redesigns of teacher preparation programs that seek to help new teachers gain a greater mastery of content knowledge; these programs also require extensive arts and sciences involvement to impart that knowledge.

For education faculty as well as their arts and sciences counterparts, faculty reward systems can often be a barrier to effective teacher preparation programs. While these policies typically are campus responsibilities, SHEEO agencies can identify models that promote change and help their campus academic colleagues to work through the implications.

Funding Policies

Without getting into the "cash cow" debate of whether or not teacher preparation programs are operated to generate more money than they cost to run, SHEEO agencies can look at how the state funding formula recognizes teacher preparation as an "academically taught clinical practice profession," in the words of the Carnegie Corporation's *Teachers for a New Era* program (www.carnegie.org). There is general consensus that students preparing for teaching careers need much more clinical experience than most programs provide. And most states have policies that require some form of induction program (analogous to residency in the medical world) for novice teachers in their first year or two of teaching. Both sets of experiences are intended to enhance teaching skills, help teachers master the intricacies of classroom management, and enable teachers to make the leap from academic content knowledge *to the use of that subject matter knowledge* for teaching.

The problem is that few institutions adequately support the costs of these pre-service and post-graduate clinical experiences, and few states provide the resources to schools or to universities to do the job well. If states and institutions expect faculty to be in the schools working with students and new graduates (as indeed they should), there are important workload and compensation issues that must be addressed, for arts and sciences faculty as well as those in the colleges of education. A key first step is to make sure that clinical experiences are a core component of the training program instead of a weakly funded afterthought.

Accomplishing this step will require that the cost of clinical experience be built into the state and campus funding formulas (a comparison with nursing education would be relevant.) SHEEO agencies can make a difference here by working with campuses to identify their resource allocation patterns for clinical training. A good data resource to deal with these issues is the Delaware Cost Study, run by Michael Middaugh at the University of Deleware (Middaugh, 2001; also see www.udel.edu). A number of SHEEO agencies participate in the Delaware project by providing credit hour and faculty compensation data.

An important first step is to make sure that clinical experiences are a core component of the training program instead of a weakly funded afterthought.

Use of Resources

One of the striking things observed in the course of the five P-16 site visits that set the stage for this strategy brief is the extent to which states are making effective use of soft-money resources to leverage change. Louisiana, Rhode Island, Maryland and North Carolina have aggressively sought federal funds for teacher preparation reform efforts. Sources of support have included the National Science Foundation, the Title II Teacher Quality Program, GEAR UP, and Preparing Tomorrow's Teachers to Use Technology (PT3). In these and other states, external funds have been used to start or strengthen *systemic* change efforts, and the states have successfully avoided the "projectitis" that often plagues grant programs. Important state goals have been advanced using these funds; broad P-16 partnerships have become the means of bringing key players to the table, and significant progress has been made on challenging issues. For all those pursuing this strategy, of course, the critical question is how to sustain progress by allocating or reallocating public funds to the same goals. Here there are also some excellent examples for SHEEO agencies to consider: Georgia, North Carolina, Ohio, Louisiana, Pennsylvania and others have started programs with external funds and taken the tough step of moving state resources to keep things going. SHEEO agencies also have integrated professional development grants funded by "No Child Left Behind" into their teacher quality improvement efforts.

Policy Alignment

Because teacher quality is a P-16 issue, progress depends on the willingness of higher education policymakers to align key policies and practices with standards for students and teachers. All states now have learning standards for K-12 students, on which these students are assessed in what can be high-stakes tests (passing required for promotion or graduation). For these to work and to be fair to all students, their teachers must be trained and supported in ways that ensure they have the knowledge and skills to help their students reach the standards set for them. This requires higher education leaders to reexamine their standards for teacher preparation programs, look at the content of those programs course-by-course, and hold programs accountable for quality outcomes. Louisiana and North Carolina, among the states visited by SHEEO, have taken significant strides in this direction.

School administrators must also have the skills to help teachers be effective and successful. Both Georgia and North Carolina are taking big steps to make sure that programs to train administrators are designed and delivered with today's schools in mind. For North Carolina, this has meant abolishing all master's degree programs for educators and redesigning them from the ground up, based on standards of the Interstate New Teacher Assessment and Support Consortium (INTASC) and on those of the National Board for Professional Teaching Standards (NBPTS). States that are unwilling to take these kinds of actions affecting teacher preparation programs will simply perpetuate a disjunction between the skills and performance expected of its teachers and the standards to which a state holds its K-12 students accountable. NCTAF's 2003 report, *No Dream Denied*, makes a compelling case for the interconnection between schools as successful learning communities and high quality teaching that produces improved student achievement (www.nctaf.org).

Emerging Issues

There has never been a better time to focus on the essentials in teacher preparation. The needs are great, the challenges many. But as the states implementing successful P-16 agendas understand, the rewards to higher education of an education system that works at *all levels* are worth the effort. Positive reasons for acting are many, but there are also serious threats on the horizon that make the case even more compelling.

There is no secret formula
for success;
the missing ingredient all too often
is the will to take
and sustain the actions necessary
to produce quality teachers
for our nation's schools.

Even though most new teachers in the United States continue to be prepared at programs housed in colleges and universities, the fastest-growing aspect of teacher preparation is the alternative pathway to teaching. Four-year institutions offer some of these programs, but they also are housed in community colleges, school districts, and non-profit organizations such as Teach for America. In addition, many such programs are offered by profit-making entities. Growth has been stimulated by the need for teachers and frustration at the pace of change in traditional (and tradition-bound) higher education. The Bush Administration has taken a decisive stand in favor of "alternative certification" that downplays the quality and role of traditional providers. The administration's position is embodied in the Elementary and Secondary Education Act (ESEA), in its approach to reauthorization of the Higher Education Amendments (HEA), in education rules and regulations, and in the directing of federal education funds to organizations that are committed to alternative certification and highly critical of traditional approaches to teacher preparation.

The critics are winning the argument and will likely win the "war" between competing approaches to preparing teachers if those charged with setting and implementing policies for public colleges and universities don't step up to their responsibilities. The rhetoric of change and commitment must be matched by real action – policy changes, resource expenditures, and meaningful accountability. There are plenty of examples of how to do these things – institutions of higher education such as those in Carnegie's *Teachers for a New Era* program; state higher education systems and agencies like those discussed in this strategy brief, and others noted in the resource list at the end of this document – all exemplify steps in the right direction. Here, again, the NCTAF report, *No Dream Denied*, offers a coherent analysis of the link between high quality teaching and strong teacher preparation programs; the report provides specific recommendations to universities and states on ways to improve teacher quality and reduce the high levels of teacher turnover that plague the nation's schools. As noted earlier, there is no secret formula for success; the missing ingredient all too often is the will to take and sustain the actions necessary to produce excellent teachers for our nation's schools.

Conclusion: High Stakes for Higher Education

This strategy brief has suggested a wide range of important steps that state higher education systems can take to promote high quality teaching for every child. The biggest step – and the beginning of real progress – is to accept and acknowledge responsibility for the issue of teaching quality.

SHEEO has received generous support from the Carnegie Corporation of New York to work with thirteen state higher education systems on teacher quality. Each state system chosen for this project has agreed to target an important area of policy for which it has both clear responsibility and the ability to make a real difference. The activities pursued by each state must also result in measurable outcomes used by the state and by SHEEO to gauge progress.

The states involved in this Carnegie-funded SHEEO teacher quality project are Arkansas, Georgia, Indiana, Iowa, Massachusetts, Missouri, North Carolina, Ohio, Oklahoma, Pennsylvania, Virginia, Wisconsin and Wyoming. Other states can benefit from the experience of this group, in addition to that of other states mentioned in this strategy brief. SHEEO can also help with advice or information about this and related national initiatives such as the National Commission on Teaching and America's Future, work of the Education Commission of the States, projects underway through the Southeast Center for Teaching Quality, and other efforts to promote high quality teaching.

The stakes in this work are high for children. They are also quite serious for higher education. As noted above, there is widespread skepticism that American higher education cares enough about the success of K-12 schools to make fundamental reforms in the ways that teacher preparation programs are designed, delivered, funded, and held accountable. National foundations, states, and the federal government are turning away from higher education and investing resources elsewhere out of frustration at the pace and sustainability of campus-based reform.

The sun may be starting to set on traditional teacher preparation programs as school districts, states, and the U.S. Department of Education look to – and provide funding and policy support for – alternative pathways to teaching. The challenges to higher education, then, are clear: first, these systems and institutions must take K-12 student achievement seriously enough to produce better state policies and practices related to teaching quality; and second, higher education must capitalize on the threat to current practices as a serious spur to action.

> **The sun may be starting to set on traditional teacher preparation programs as school districts, states, and the U.S. Department of Education look to alternative pathways to teaching.**

Endnotes

[1] Rhode Island, for example, has developed an innovative way to stimulate this work: the state higher education board has sponsored a series of academic dialogues, each of which involves arts and sciences, education, and K-12 faculty in a particular subject area.

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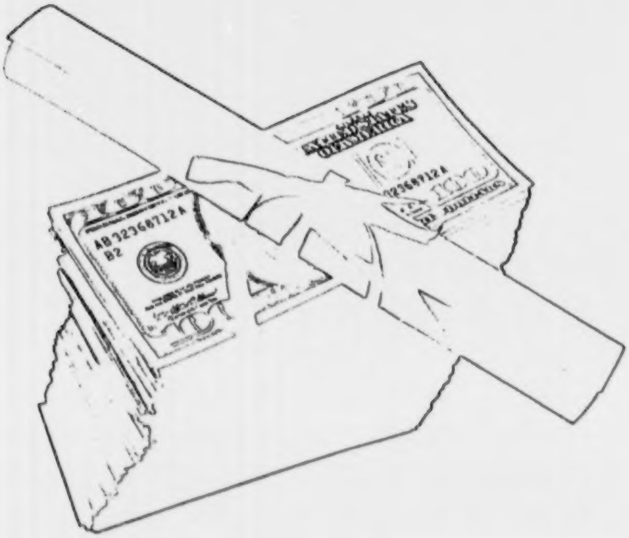

Student Financial Assistance

by David A. Longanecker and Cheryl D. Blanco

Publicly funded student financial assistance is a relatively modern phenomenon. In the later half of the twentieth century financial aid evolved as a means of assuring that a much broader array of qualified Americans could receive the benefits of higher education. Publicly funded financial aid moved away from the focus of traditional scholarship programs toward the goal of eliminating financial barriers to college attendance for all qualified students, not just the best and brightest.

Why is Student Financial Assistance Essential to Student Success in a P-16 System?

Initially financial aid policy focused almost exclusively on higher education. Apart from a handful of targeted efforts, such as the federal TRIO programs and a few state programs such as Minnesota's Post-Secondary Planning Program (PSPP), the evolution of publicly funded student financial assistance was not perceived or integrated as part of a P-16 strategy for higher education. We have learned over the last half-century, however, that simply removing financial barriers to college attendance hasn't achieved the goal of eliminating inequalities in higher education participation and success. Several factors help account for this shortcoming: one is that the public policy goal has itself actually changed; another is that the original assumptions and intervention strategies were flawed; and a third is that financial aid was not provided sufficient funding to achieve success. All three of these factors now make it clear that we must consider financial aid as an integral component in an overall P-16 strategy, not simply as a higher education funding tool.

What changes, then, have occurred to our public policy goals that require financial aid policy to move beyond the domain of higher education policy into the framework of P-16 initiatives?

The big change in policy goals is that we now see higher education as not just beneficial but essential to the pursuit of economic well-being for most Americans. In the past, financial aid policy wanted to ensure that all those who sought a postsecondary education could do so regardless of economic circumstance, but we did not conceive that all young people would or should go to college. Today, however, policymakers concur that most young people and many more adults need to secure a college education to enjoy the individual benefits of "the good life" and to keep America economically vital and socially just. To achieve this evolving goal, therefore, public policy must progress from simply *enabling* participation to *enhancing* participation.

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Yet this evolution of public policy does not in itself make a compelling case that financial aid, as the main strategy for financing college, must be part of an integrated P-16 strategy. This factor becomes compelling only when blended with the second factor mentioned above – the fact that our original strategy was flawed. The prevailing thought was that making the funds available would provide the educational opportunity for which we were striving. But money itself was not enough. Too often the students and their families did not know that financial aid was available or that it was sufficient to offset their need. Both federal and state financial aid programs failed to provide adequate information to prospective students and their families to assure them that college was affordable. Furthermore, neither federal nor state activities provided strong signals to these students and their families about how to prepare for college. Many of the new students attracted to college have therefore not succeeded because they were not prepared academically to do so. As a result, we have seen recent reforms in student aid policy begin to focus both on providing earlier information and on encouraging better academic preparation.

These two new components directly tie financial aid into K-12 initiatives. A consideration of how college will be financed becomes a necessary and integral component in the early intervention activities, and past experience teaches that building such awareness entails two steps: providing clear information that college is affordable through financial aid; and increasingly, underscoring the message that a student will have to *earn* this affordability through rigorous preparation.

The need to instill better understanding of what college study entails alone would justify the P-16 link. It is further justified, however, by another trend – the increasing cost of American higher education. Tuition is increasing in both public and private institutions of higher education at rates that substantially exceed inflation. There is no reason to believe these rates of increase will not continue, particularly given the likelihood that current economic hard times will constrain state support for universities and colleges, forcing them in turn to rely more heavily on tuition revenue to support their operations. Exacerbating this legitimate concern about college costs are the less accurate portrayals of college costs in the public media. Investment firms advertise "run-away costs of college" to encourage parents of prospective students to invest more. Politicians rail against outrageous college costs to garner political opportunity. And even public agencies that *sell* college savings plans try to worry folks into investing in their particular products. Whatever their intent, these efforts greatly confuse the public about what college costs. In a poll conducted in 2000 by the American Council on Education, most respondents estimated community college tuition and fees to be 300 percent higher than they actually are, and respondents overestimated public four-year institutions' tuition and fees by more than 200 percent (American Council on Education 2001).

Overestimating the cost of higher education perversely affects participation in higher education. For prospective students from middle-income families, research shows that misperceiving the cost will not likely affect the decision to attend college, but it might well affect where they attend. For students from low-income families, however, misperceiving costs can be devastating; overestimating costs will dissuade many of these prospective students from attending college at all. Thus, our public policy goal of enhancing participation cannot be achieved if we do not better inform students about the interplay between tuition prices and financial aid.

For students from low-income families, however, misperceiving costs can dissuade many of these prospective students from attending college at all.

The need to explain college costs of course presumes that there is a positive relationship between tuition and financial aid policy at the state level, and that we can honestly inform students that college is affordable. Unfortunately, in too many states no such relationship exists, and honesty would mean telling a story we wish not to relay – that a state does not guarantee affordability. Yet for at least two reasons, even presenting this story would be an important part of a P-16 strategy. First, telling this story would honestly portray for students the circumstances they face, providing early warning that they need to look elsewhere for the financial support they will need. Second, highlighting the true lack of affordability in a given state environment could force the profound changes in higher education finance policy that many states need.

For a variety of reasons, therefore, we now know that student financial assistance must be an essential component of any P-16 strategy if we wish to enhance student success in postsecondary education.

What Does a Sound Student Financial Assistance Program Look Like in a P-16 System?

Drawing on our operational definition of P-16 as "an integrated approach to providing education from kindergarten to a baccalaureate degree," this policy brief suggests that a well-grounded state financial assistance program would have several characteristics. While our list may not be exhaustive, we nonetheless believe that any financial aid program in a P-16 environment that seeks to increase the chances for youth to participate and succeed in postsecondary education should have the following characteristics:

Student oriented

A statewide financial assistance program should meet the needs of the students it serves, and this target group will be shaped by demographic, social, and economic factors that need to be considered if the state is trying to expand access, choice, and success in postsecondary education for all students. Because every

Some promising state practices:

- ➢ **Indiana's** Twenty-first Century Scholars Program exemplifies an initiative that not only connects with young people before they reach high school but also commits resources to them.The Indiana program reaches out to low-income eighth-graders with financial aid assurances. In middle school, students commit to taking the steps to prepare for college; the state promises them financial aid for in-state tuition at a public university or its equivalent at a private college. A recent study of the program reported that participation in the Scholars Program improved postsecondary opportunity for low-income students. Scholars were more likely than non-Scholars to enroll in Indiana public and private colleges (St. John et al. 2002). In addition to aid, the Scholars Program provides services to students and parents through workshops, mentoring, academic support, social/cultural events, career counseling, and other activities at regional support centers.

- ➢ **Maryland** also links financial aid to outreach programs by pre-qualifying ninth- and tenth-graders for the state's Guaranteed Access program.

- ➢ **Rhode Island's** Children's Crusade for Higher Education is another statewide, early-intervention program that provides support programs and financial aid. Students must enroll as third-graders in a school designated as an "enrollment school." "Crusaders" who fulfill their pledge to avoid alcohol, drugs, and early parenthood, who graduate from high school, are admitted to a postsecondary institution within a year of graduation, and are financially eligible will receive a cash scholarship distributed on a "last dollar basis" to offset unmet need, reduce loans, or decrease the amount of need-based work-study.

- ➢ **California** has effectively communicated an "affordability" message to residents through its long history of providing higher education at a low cost. This well-known factor alone has certainly made it easier for students and parents to plan for college.California's commitment to affordability has contributed, in part, to the state's B+ grade in participation on the latest "Measuring Up" state-by-state report card (National Center for Public Policy and Higher Education 2002).

Promoting choice:

Colorado is considering a voucher program that, in lieu of traditional subsidies to institutions based on FTE enrollments, would provide direct grants to all students attending in-state public institutions of higher education. Viewed as a more "market-driven" way of financing higher education, it is envisioned that through this student centered financing approach every prospective student would know how much he or she would receive in direct subsidy early in the decision-making process. Because this proposal does not intentionally integrate state need-based financial aid into the plan, however, it would leave the most financially vulnerable students at risk because there is no assurance that they will be able to afford the substantially higher tuition, fees, and other costs of attendance not covered by the voucher.

state has unique demographic characteristics, there is no "one size fits all" financial aid program, but there are broad programmatic structures that are used by many states. Examples of these broader categories are need-based aid, merit-based aid, and occupation-specific aid (e.g., aid for students to study nursing, teaching, engineering, etc.). A state that seeks to increase the participation rate of its low-income students will want to ensure that it has needs-test criteria in its program. It is also important that a state fund such programs in sufficient degree, while at the same time communicating to lower-income students that these programs are intended to meet their financial needs. A state may also want to have a separate program that recognizes both merit and need, offering higher aid packages for those students who meet the need criteria while also demonstrating academic excellence.

Considerable research has been dedicated to understanding how the availability or unavailability of financial aid influences college-going decisions by students and their families. We don't have all the answers, but we have learned much that can help us increase participation and success of underrepresented populations through financial aid programs. We know, for example, that:

- The least wealthy know far less about the cost of tuition than any other income group, and that estimates of tuition still far exceed the actual cost (American Council on Education 2002)
- Low-income students are more likely than more affluent students to have earned an alternative credential and delayed their entry into postsecondary education (King 2002)
- Compared with the average price of attending different types of institutions, the average expected family contributions (EFCs) for low-income students are relatively small, so virtually all low-income undergraduates attending full time, full year have financial need (U.S. Department of Education 2000)
- Financial aid makes college possible for most low-income students who are otherwise prepared (Choy 2002)
- Low-income students who began their postsecondary education are less likely than their higher-income counterparts to have earned a degree or certificate or still be enrolled four years later (U.S. Department of Education 2000)

Financial barriers are generally much more prevalent for low-income, underrepresented, and first-generation students than for others, and the amount of tuition and availability of financial aid are more important factors for these groups than for students in other income levels in deciding not only *where* to go to college but *if* they can go to college. "In general, African American, Hispanic, and low-income students tend to be more price responsive (i.e., are less likely to enroll in college, or change the type of institution in which they enroll, in the face of tuition increases) than are white and middle- and upper-income students" (Heller 2001). Thus, it is essential that the families of these students know by middle school or early high school that financial aid is available, in what forms, how much, and how to access it. Counseling services, outreach programs, and community-based support groups all can play a role in helping with information and planning.

Without both comprehensive information and an assurance that adequate aid will be there when they graduate, students may be less likely to prepare academically, to look at their postsecondary options seriously, and to begin their financial planning. It is not uncommon for high school seniors to learn about their financial aid awards only weeks – or a few days – before classes begin. This timing presents an insurmountable obstacle for low-income students who do not have adequate resources at hand to cover remaining costs. In addition to providing information and counseling services to support students and families in understanding financial aid options and obligations, programs should be designed and funded to commit resources to students well before they leave high school. The goal of enhancing participation in higher education will not be achieved if students perceive that college is unaffordable and the financial barriers are not significantly reduced or eliminated.

> It is essential that the families of these students know by middle school or early high school that financial aid is available, in what forms, how much, and how to access it.

State policymakers and institutions must also be well informed about the advantages and disadvantages of different types of aid programs and their impact on student access, choice, and persistence in postsecondary education. The need for such understanding derives from the fact that policymakers and institutions are responsible for shaping financial aid programs and funding them in such a way that students and families can count on them.

Another critical characteristic of student-oriented financial aid programs in a P-16 system is their ability to promote choice, both when students begin postsecondary education and as they transition into different kinds of institutions. Conduciveness to choice is particularly important for expanding access to higher education, and it must be clear to students and their families which programs are available and most useful to them. Financial aid awards that are too low or linked to a particular kind of institution will inhibit student choice by limiting their options to low-tuition institutions or specific institutions. In a P-16 environment, all students know that they have a reasonable expectation of choosing among a broad array of institutional types in American higher education. Students who transfer from one institution to another should be able to do so smoothly, knowing that their aid moves with them with no restrictions imposed in the transition. One area of increasing concern in this regard is aid for part-time students. A P-16 environment recognizes that some students will be able to attend college only on a less-than-full-time basis, yet there are few states that provide aid for part-time students. Effective state financial aid programs support choice and provide the student with flexibility.

Integrated with state tuition and financing policies as well as with federal and private aid programs

A major reason we have financial aid programs at all is to offset the cost of going to college for low-income students and those who could otherwise not afford to attend. In determining how much and what kind of aid each student will receive, financial aid officers consider multiple factors, and one of the most critical is the cost incurred by the institution to provide the educational experience. In most institutions, the cost of education is shared by the student, the institution, and the state. The student's share is reflected in tuition and fee charges, and the financial aid packages that higher

Aligning policies:

The **Western Interstate Commission for Higher Education** (WICHE) is exploring these issues through a project titled, *Changing Direction: Integrating Higher Education Financial Aid and Financing Policies*, supported by the Lumina Foundation for Education. The project is examining how to structure financial aid and financing policies and practices to maximize participation, access, and success for all students. Year after year, the policymaking and education communities struggle with questions of how to meet growing needs through state allocations, how best to ensure shared and equitable responsibility for meeting the costs of higher education, and how best to use subsidies such as financial aid to expand access and opportunity. The project is based on the premise that too often, these issues are dealt with as discrete questions rather than reflecting the interrelatedness not just of higher education finance and financial aid policies, but also of state and federal arenas. Few states are satisfied with their decisions in these areas, and the search continues for better solutions to these ever-present problems. Five states – Arizona, Connecticut, Florida, Missouri, and Oregon – have taken up the challenge to achieve better alignment among key policies pertaining to financing and financial aid. For more information on the *Changing Direction* project, visit http://www.wiche.edu/Policy/Lumina/index.htm.

education institutions provide are directly related to the level of tuition and fee charged. Ironically, however, state financial aid policy, and the programs established to support policy, are rarely integrated with two other key state policy areas: tuition, and direct institutional support. Unless state polices related to financial aid are consciously linked to financing policies (primarily tuition and appropriations), students who can least afford to go to college will be short-changed and may be denied equality of opportunity in access to postsecondary education.

State financial aid policy, and the programs established to support policy, are rarely integrated with two other key state policy areas: tuition, and direct institutional support.

David Longanecker has articulated the importance of aligning financing and financial aid policies and practices: "Integrated financing policy should ensure that state policy and practice with respect to institutional support are in sync with state tuition and financial aid policies and practices. . . . State financial aid policy must protect those students from low-income families who simply can't bear increased costs . . . [for] participation of students from low-income families does decline as the price of college increases. Good, well-integrated policies, however, can address this." He notes that price-sensitive students need to be protected from tuition increases through policies that offset any increase in price with increased financial aid. Securing such protection requires two policy imperatives: first, a viable state financial aid policy; and second, the integration of that policy with state tuition policy and federal financial aid in ways that intentionally secure financial access. "The absence of such intentionally integrated policies in most states means that in tough times, when tuition logically increases, financial aid either declines or remains stagnant" (Longanecker 2002).

Just as importantly, public colleges and universities must have reasonable assurance that state appropriations will be sufficient to keep up with increases in the cost of providing high-quality postsecondary education. The closing years of the twentieth century marked a good period generally for higher education as states often increased their appropriation to postsecondary institutions; many states also dedicated a larger share of their budgets to higher education. The early years of the twenty-first century reveal a very different trend as state revenues have declined precipitously and there are fewer dollars to sustain public services. The uncertainty of state dollars for higher education has resulted in higher tuition rates at most institutions to cover the increasing costs of providing postsecondary education. No subject has dominated the higher education conversation during this period so much as the difficult fiscal conditions of our public colleges and universities. On-going campus budget cuts, the specter of mid-year tuition increases, and double-digit hikes already implemented threaten the ability of institutions to support financial aid programs. The effect of these developments is to place student access and persistence in further jeopardy. Fiscal instability in state appropriations degrades the basic ability of students to count on financial aid.

Accountable and appropriate for the goals they serve

Well-intentioned state financial aid programs often get off track and are expected to accomplish objectives they were never designed to address. One reason for an apparent loss in direction is that programs are often established in statute and funded without including a comprehensive evaluation component as part of the program design. Periodic assessment of financial aid programs is essential to ensure that such programs are effective and efficient in advancing the goals of greater participation and success in higher education. It often occurs that misalignment between programmatic intentions and actual implementation is not recognized until too late – after the awards have been distributed and spent. Ongoing research needs to be conducted on how well state financial aid programs achieve their goals.

The difficulty in assessing program effectiveness increases not only when program purposes are not

It often occurs that misalignment between programmatic intentions and actual implementation is not recognized until too late.

clear but also when aid programs are set up to do too many things. Merit aid programs that require high GPAs and a rigorous college preparatory curriculum because they are intended to stem the brain drain in a state should be held accountable for doing that – they should not be expected to increase the number of low-income, first-generation students. Merit programs generally will not be successful at achieving the goal of expanding access for low-income, underrepresented, first-generation students because these individuals often do not have access in their schools to the required rigorous curriculum. If the college preparatory track is available in their school, these students too frequently have not taken the courses in middle school that prepare them for the college preparatory courses in high school. Conversely, financial aid programs that are need based and structured to increase the participation and success of underrepresented groups in college should be held to that standard.

Most states have suffered from program proliferation and vague or ambiguous programmatic objectives. These conditions are usually symptoms of a lack of clarity among policymakers about the overall purpose of a state financial aid program or what program design will best achieve that purpose. If "brain drain" is a problem that the state wants to address through its financial aid programs, then that goal should be very apparent. If the problem is low achievement, especially at the high school level, then an aid program that rewards high school students for taking a college preparatory curriculum should be the obvious goal. Whatever the issue, expected program outcomes must be clear and measurable so that every program can be held accountable for demonstrated improvement. With fewer fiscal resources available for financial aid programs, the temptation is strong to reduce the overall number of programs by merging two or three unique programs into one generic program. While consolidation may be recommended for better program administration, the cure may be worse than the problem if dissimilar programs are merged. Blended aid programs that link need with high academic performance are becoming more common with the allure of a high academic standard, but it is very difficult to assess the effectiveness of such programs. An effort to build one large program from several smaller programs by simply combining their highly diverse goals may set the entire program up for poor results.

Financial aid programs in a P-16 system are grounded in good data, and good policymaking to establish and support those programs requires good information. "Poor information at the state level can result in decisions that negatively affect large numbers of students, institutions, and citizens in multiple ways. Relevant information enables substantive discourse, dialogue, and debate about key policy issues in higher education" (Jones 2002). Financial aid decisions about funding levels, qualification criteria, target groups, and award levels are made on composite information drawn from several sources in education. Because our goal is not just enrollment in college but also academic preparation, persistence, and success, the information pipeline extends from at least middle school through the baccalaureate degree, with significant milestones along the way. Accurate, timely, and accessible information on individuals as well as groups of students is critical in developing and projecting aid program participation criteria, and funding levels. When data systems in K-12 and higher education are separate and independent, their capacity to 'talk" to each other is critical for identifying potential recipients, determining persistence, and assessing need. Student unit record systems are essential in a P-16 environment, and information on financial aid eligibility is a necessary element in that environment if students are to have access to information on what is available to them and if consistent, timely, high-quality information is available for policymakers to make informed funding and program design decisions.

Effective Data Systems:

- **North Dakota's** university system and the state department of public instruction are collaborating in developing a centralized contact information database of the state's high school students. The university system anticipates that a common resource base will increase the ability of campus recruiters to reach out to prospective college students.
- **North Carolina** has a "data-based decision-making" approach found in few other states. Information feedback mechanisms implemented by the University of North Carolina to the community colleges and high schools connect levels of the system and provide educators with solid information about the consequences for students of their prior educational experiences.

Examples of effective elements in state programs:

- **Oklahoma's** Higher Learning Access Program (OHLAP) targets eighth-, ninth-, and tenth-grade students with family income of $50,000 or less. In the course of its first decade, enrollment has increased significantly as OHLAP's visibility increased and families have come to depend on the program and its funding.

- **Georgia's** Helping Outstanding Pupils Educationally (HOPE) Scholarship Program has been highly successful in communicating with the state's citizens. Most everyone in the state – students, teachers, parents, families, counselors, and school administrators – know what HOPE is and how it works. Students know they can count on it being available to them, as well as how to receive and keep the award.

- **Maryland** K-12 and higher education formed a K-16 Leadership Council to seek significant increases in student aid – particularly need-based aid.

- **Minnesota's** shared responsibility model has been in place for over 20 years and appears to be widely accepted and understood by students, parents, and school and college administrators. Since its inception, the "Assigned Student Responsibility" portion has been very stable – first set at 50 percent in 1983, it did not change until the legislature lowered it to 47 percent for Fiscal Year 1999; it was lowered one percentage point more in Fiscal Year 2001. This kind of policy provides a level of consistency and predictability that makes it far easier for families and students to determine how much they must pay.

- **California** policymakers dramatically increased the state's Cal Grants program appropriation in 2001 in order to guarantee an award to all high school graduates with at least a C grade point average and financial need.

Transparent and predictable

A universal complaint about financial aid is the complexity of the application process. No one talks about how simple it is to apply for financial aid, and there are no reliable estimates on the numbers of students and families who simply give up when faced with filling out the forms and collecting the documentation. Experience and research tell us that programs need to be highly visible so people know about them, consistently funded so people can count on them, and characterized by an application process that is relatively clear, easy to understand, and simple to complete.

Comprehensive and inclusive

In a P-16 system, financial aid provides support in high school and throughout college, with resources focused when and where they are most needed. In the same way that many early intervention programs reward middle and high school students for behavior, grades, or courses taken, financial aid during the college years could reward persistence and degree completion for low-income students. Such rewards may take the form of differential aid to recognize persistence – increasing the award level each year that a student stays in college and progresses toward the degree. A similar effect would be achieved by replacing loans with grants during the final year or two of the degree program. Or the differentiated aid could be used to promote access and participation by making higher awards in the freshman and sophomore years and using grants in the first couple of years rather than loans.

When students are responsible for paying tuition and fees for K-12 accelerated programs, the barriers for participation by low-income students rise dramatically.

An early form of financial aid in a P-16 system is funding for accelerated options – such as dual enrollment, Advanced Placement (AP), and International Baccalaureate (IB) programs – for all students. To enhance the participation of low-income students,

Advanced Placement model:

The **U. S. Department of Education's** Advanced Placement Incentive Program is a national effort to increase the numbers of low-income students taking Advanced Placement courses and examinations. Through a competitive process, applicants seek funding to provide fee reimbursements to qualifying students for taking Advanced Placement examinations; additional funding is awarded to applicants for a wide range of activities (such as teacher and counselor professional development, online accelerated courses, pre-Advanced Placement activities, vertical team development, etc.) that will help increase the participation of low-income students in accelerated learning programs. States could build strong programs on this model.

as well as all students in accelerated programs, state policy in a P-16 environment will encourage school districts and higher education institutions to collaborate in offering these academically rich opportunities to all students – especially those in rural and economically disadvantaged districts. The other important part of the state's role is to provide financial support for these programs. Most states require the student to pay for part or all of the cost of the accelerated programs. When students are responsible for paying tuition and fees for dual enrollment, concurrent enrollment, AP, or IB courses, the barriers for participation by low-income students rise dramatically.

Reinforces readiness

In addition to inclusiveness and comprehensiveness, financial aid programs should reinforce readiness for college rather than the attainment of grade averages. Neither grades nor grade point averages (GPA) necessarily reflect a student's readiness to do college-level work. Many programs – both need- and non-need based – require a minimum GPA with no recognition of the content and rigor of the courses students take. What often happens is that students refuse to take challenging courses like those in accelerated options, preferring to take easier courses in order to maintain or improve their GPA and chances to qualify for a scholarship. All of our activity in preparing students to leave secondary school should focus on providing the strongest possible preparation for college or the work force. Financial aid programs that emphasize GPA over readiness send the wrong signals to students and ultimately diminish their ability to compete successfully, either in college or in many jobs. Student assistance programs should be structured to motivate and reward achievement and encourage strong academic preparation. Some states have done this by requiring completion of a "core curriculum" to quality for certain aid programs, but these are usually scholarship programs.

The elements of a comprehensive P-16 financial aid program are similar to what one might expect from any good state financial aid program. Unfortunately, we have been unable to identify among the fifty states a P-16 program with the characteristics indicated above. Many states exemplify some of the elements, but none contains them all. The goal of successfully applying a holistic approach to education from kindergarten to the baccalaureate cannot be achieved with equity for low-income, underrepresented, and first-generation students until we can unequivocally say that our state financial assistance programs are oriented towards students, integrated with state financing policies and federal and private programs, accountable and appropriate for the goals they serve, information driven, transparent and predictable, comprehensive, and structured in such a way to reinforce readiness.

Requirements for student assistance:

- **Florida's** Bright Futures Scholarship program is the umbrella program for all state-funded scholarships based on academic achievement in high school. Eligibility criteria include at least 15 college preparatory high school credits (Florida Postsecondary Education Planning Commission 1999).
- **Louisiana's** Tuition Opportunities Program for Students (TOPS) requires 16.5 core units.
- **Oklahoma's** Higher Learning Access Program is one of the few need-based programs with an average GPA requirement – 2.5 – and specified units of high school courses to prepare students for college.

What Are the Obstacles to a Successful Student Financial Assistance Program in a P-16 System, and How Might They Be Overcome?

The obstacles to incorporating successful programs of student financial assistance as an integral component of a P-16 strategy for enhancing student success fall into two categories:

The First Dilemma: The Lack of Capacity to Ensure Access to Success

1. Insufficient fiscal resources
2. Competing state goals
3. Lack of student aspiration and motivation

The Second Dilemma: The Lack of Adequate Strategies to Ensure Access to Success

1. Complexity in design and operation
2. Lack of transparency – inadequate and insufficient information
3. Failure to integrate finance policies so that they complement each other

Dilemma I: The Issue of Capacity

Insufficient fiscal resources

Almost all states, and certainly the federal government within the Higher Education Act, have strong rhetoric that supports broad participation in postsecondary education for all citizens who are willing and able to benefit from such study. Without adequate financial support to achieve that goal, however, access cannot be assured. Without a financing scheme that eliminates legitimately assessed financial need, research shows clearly that many students from low-income families will not attend college, and many of those that do will not succeed. It's that simple. States that fail to address this funding breach will fail to achieve true access to success in postsecondary education. Today, only about twelve states have robust enough state need-based financial aid programs to ensure financial access, and even fewer states intentionally seek to integrate their financial aid, tuition, institutional support policies, and funding practices to ensure true affordability.

Often, the insufficiency of fiscal resources results not so much from a lack of *will* as it does from antiquated policies that inappropriately address modern public policy objectives. For example, many states rely on low tuition as their primary strategy for ensuring affordability. When first adopted more than a century ago, that approach made sense; public subsidies to the institutions were sufficient to cover the costs of educating the few best and brightest young high school graduates, who were the only ones expected to attend college. With today's expectation that most young people will graduate from high school and continue on to college, the old low-tuition model does not suffice – first, because it does not account for the true costs of college attendance; and second, because it does not provide the institutions with the resources necessary to educate the masses.

One commonly proposed solution is for public policymakers simply to recognize that higher education provides great social and economic value to a state and thus warrants greater investment. That argument has been relatively unsuccessful in the past and promises to become even less compelling, given the current scarcity of public resources, and the fact that there is nothing particularly new or novel about the argument. In fact the substantial economic returns that higher education confers on individual students may have weakened public support, if only because these returns heighten the perception that higher education offers more of a private than a public value.

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Two promising public policy strategies, however, are currently being considered in a number of states for addressing the fiscal resource barrier. The first would reallocate both public and private resources within higher education in a way to enhance the affordability of all students, particularly those with greatest need. Generally this strategy calls for increasing tuition and offsetting the cost of this increase for needy students with substantial increases in financial aid. The additional tuition revenues can help ensure affordability for existing students with unmet need while expanding access to other students who currently cannot afford to attend, even in a constrained state fiscal environment.

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A number of states are trying a second strategy, which moves beyond the old approach in favor of a new one. Though many of the recently adopted "merit-aid" programs have distinct design flaws, they have clearly caught the imagination of policymakers by bringing "need" and "achievement" together. Merit-aid programs create a partnership of sorts between the government and the beneficiaries. Indiana's Twenty-first Century Scholars Program and the Oklahoma Higher Learning Access Program (OHLAP) stand out as models in this realm. They blend need and merit by focusing resources only on low- and moderate-income families and rewarding students for taking a rigorous curriculum. These programs avoid two problems of some "merit" programs: they don't offer incentives to take easy courses to get a higher GPA, and by combining need and academic achievement they are more efficient than programs that make grants to students who have ample financial resources and require no assistance to enroll.

Competing state goals

Governors and legislators must balance many demands for limited resources. Some federal mandated costs such as Medicaid leave states with no choice, although in most cases policymakers choose between competing and important public services. Over the years, higher education appears to have lost its luster, receiving a gradually decreasing share of state budgets, despite an increasing demand for its services. Yet higher education must take care not to overplay this phenomenon, for although the *share* of resources has been declining the actual *amount* provided to higher education has increased.

Ensuring that higher education fares well in the competition among state priorities will be extremely difficult for three reasons. First, higher education is increasingly being perceived as a private good. Second, some other services must grow, either because of mandates or from being of such pressing present concern (i.e., homeland security) that they receive higher priority. Third, because higher education has recourse to tuition as an additional source of revenue, it is one of few state services in which costs can be conveniently shifted.

The same strategies discussed above in the financial sufficiency discussion – reallocating within higher education and presenting a "new way" of enhancing access – however, may be successful in helping higher education compete more effectively in the public arena.

Lack of student aspiration and motivation

Low aspirations and the lack of student motivation present major obstacles to success in a P-16 strategy. One might readily ask, if pre-collegiate students do not aspire to higher education and lack the motivation necessary to prepare adequately, does public policy even matter? In fact there is evidence that it does. Some studies suggest that the reason many young people are unmotivated and non-aspiring is that they do not believe it possible to consider continuing their education. They often believe that they cannot meet the learning requirements, and that even if they could succeed, their families could not afford to send them on to college.

On first blush this may seem like a legitimate issue for the P-16 agenda, but not a legitimate focus for financial aid within the broader agenda. A number of early intervention efforts have evolved recently, however, to work with these students and their families, and equally

Programs in Indiana and Oklahoma blend need and merit by focusing resources only on low- and moderate-income families and rewarding students for taking a rigorous curriculum.

important, with their teachers, counselors, and financial aid professionals, helping them understand that all students can learn, that they must do so if they want the good life, and that financial aid is available to help meet the cost of higher education if they prepare well. Most notable amongst these early intervention programs are the federal GEAR-UP programs, which are attempting to bring to scale many projects modeled after innovative efforts such as the Ford Foundation's Project Grad and the I Have A Dream Programs. These programs blend encouragement, rigorous preparation, and guaranteed financial aid into a package that helps motivate students to achieve at higher levels.

> The reason many young people are unmotivated and non-aspiring is that they do not believe it possible to consider continuing their education.

Financial assistance, then, can be an effective part of a program to increase aspirations and motivation, but only if designed well.

Dilemma II: The Paucity of Good Strategies

Complexity in design and operation

A serious obstacle to incorporating today's financial aid scheme into an effective P-16 strategy is the complexity of that scheme. In combination, federal, state, and institutional programs do a nice job of covering the landscape of needy students, but they are so complicated that no one from outside the financial assistance club can understand the rules. The reason these programs are so convoluted is simply that the focus is on the wrong place; they are designed to serve the needs of institutions and government first and foremost, not of students. Institutions want to retain discretion over which of their students will receive what aid. And, because aid flows in from a myriad of governmental and private sources, in addition to what the institutions provide themselves, the financial aid professional has become an essential broker for *packaging* financial aid. The dilemma, however, is that this arrangement makes the process anything but transparent to the prospective student. How can prospective students plan for the future if they have no idea how their aid will be *packaged* when the time comes?

A second dimension of the complexity issue has to do with the design, regulation, and rules for financial aid. Filling out the Federal Application for Student Financial Assistance (FAFSA) has been greatly simplified in recent years, but it remains a daunting task for families with limited means, sophistication, and literacy skills. The process could be much simpler, particularly for very poor people. In addition, federal regulations on the institutional management of the programs, all developed for good reason and in a professional manner, tend not to capture the true nature of student life, particularly for students from low-income backgrounds. Some of these impediments cannot be removed because they are necessary to manage exceptionally large programs and to prevent fraud and abuse. Yet some of the complexity could be eliminated, particularly for students with substantial financial need. We need to simplify a number of aspects of these programs so our intended beneficiaries can better understand that they can go to college.

Complexity will always be an obstacle to some extent, because of the many sources of benevolence that contribute to the overall financial aid scheme. But, the process can be simplified. Minnesota has a very substantial state student financial assistance program, which makes it easy for a prospective student to understand her or his obligation and what others will provide, yet the state delivers these grants through a mechanism that is easily managed at the individual campus level.

> The reason these programs are so convoluted is simply that the focus is on the wrong place; they are designed to serve the needs of institutions and government first and foremost, not of students.

The issue of transparency

Too often the people we want to help do not understand financial aid because we have not found effective ways to communicate what is available. Part of the problem here is the timidity of government to "commit." The federal Pell Grant program is now more than thirty years old. This being the case, why can't it *commit* to a thirteen-year-old eighth-grader whose family lives below the poverty line that he or she will absolutely receive a Pell grant when matriculating in a college or university? We all know the arguments. It is because today's government cannot legally commit resources from a future government. And, because a particular student living in poverty might be one of the 2 percent who will eventually get out of poverty before going to college. These arguments make it unlikely to suppose that change will occur at the federal level.

States, however, do not have to be caught in the same game. Minnesota's Shared Responsibility Plan makes it clear to students what their obligation is, what their parents' obligation is, and what the government will supply through federal or state programs.

We need to find ways to get honest, accurate information to students and their families early enough that they aspire to a brighter future through participation and success in postsecondary education.

Failure to make policies complement each other

Too often states have an array of policies, each intended to advance the agenda of student success though not designed to complement one another. In fact, occasionally these well-meaning policies actually work against access to success in a P-16 paradigm.

With respect to financial aid, the most obvious obstacle is the lack of integration of financial aid, tuition, and institutional support financing policies. In most states, the responsible governing or coordinating board makes a request for state appropriations for their institutions. Generally another responsible body makes a request for financial aid from a judgment of likely need, even though it has no idea what tuition will be when the student enrolls. Some time later the responsible boards or legislature make a political or reasoned decision about how much tuition will increase, and institutions make some decisions about how much they will individually commit to financial aid from their own resources. This process is not designed to assure adequacy for student financial aid or to provide much transparency to prospective students and their families. States must find a way to bring these discussions together and develop and manage their finances in ways that recognize the interrelated nature of financial aid, tuition, and institutional support.

While there are few good models to follow, some have begun to evolve. In a number of states there is at least recognition in current policy of the relationship between tuition and financial aid. Nevada and Arizona are considering substantial changes in the way these two components of higher education finance are conceived and managed. Too often, however, we fail to appreciate the importance of the third leg of higher education finance – institutional support – in supporting access. We think of institutional support as the quality leg and not an access leg. Yet, if institutional support is insufficient, no amount of financial aid will assure access because the institutions will not have the services in place to meet the needs of financially and educationally at-risk students.

As students increasingly participate in early college options – dual enrollment, international baccalaureate, Advanced Placement, etc. – it becomes imperative that public policy be framed and pursued as a P-16 strategy. Too often today, these programs, while highly approved by the public, provide little incentive for institutional buy-in at either the high school or college level. Again, though, there are models emerging that are worth watching and perhaps replicating. The Oklahoma Higher Learning Access Program (OHLAP) warrants special mention. It rewards not only students that succeed but also the high schools they attended for helping them succeed; ultimately the program helps the colleges these students attend through a well-funded financial aid award.

In sum, financial aid must be an integral component of an effective P-16 strategy for increasing student success. Without it an essential component in the overall strategy would be absent from planning and management, and the public policy objective to enhance equal opportunity would be foiled.

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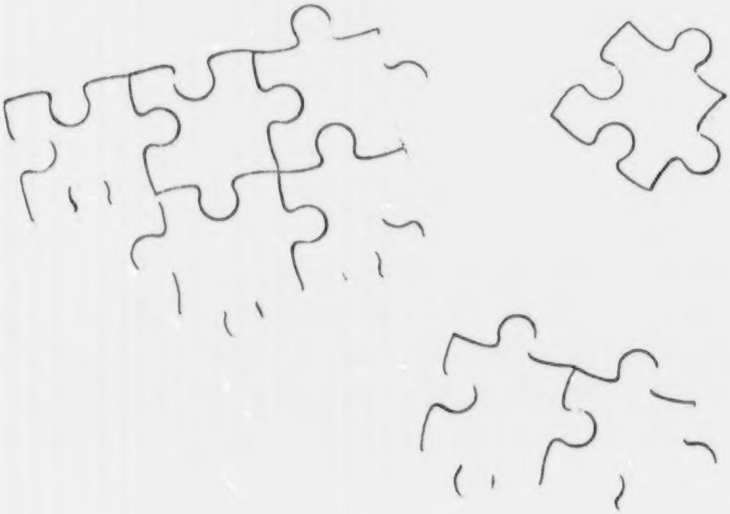

Data and Accountability Systems

by Hans P. L'Orange and Richard A. Voorhees

The tremendous interest in increasing the depth and breadth of educational achievement in the United States has created a burgeoning industry of educational standards, data, and accountability systems. It has also created some resistance as educators and policymakers, as well as parents and other stakeholders, are energetically debating what kinds of standards, data, and accountability systems are needed to help improve educational achievement.

While there is legitimate debate over many details, it is clear that the data systems in most states were never designed to meet the challenges envisioned by new accountability mandates. These systems were originally constructed to provide data for routine reports or to audit expenditures; they are wholly inadequate to meet the assessment and accountability challenges of the twenty-first century. Data systems designed for the new century will need to provide a comprehensive foundation for documenting the achievement of students, schools, and colleges, while improving the ability to respond to questions about a state's investment in education.

For the foreseeable future, re-conceptualizing and recasting existing data systems will be the bywords in most states. What is emerging, particularly in high-stakes environments, is a need for information that is both comprehensive and focused – capable of describing achievement across multiple sectors while also reporting educational performance in particular areas. Ideally, an integrated data system across all levels of education will meet those combined informational needs. In reality, two systems currently exist; one for K-12 education and another for postsecondary education. Neither system is adequate alone, and because they are poorly aligned, they are even weaker together.

The purpose of this essay is to help advance the discussions now occurring in most states by describing the kinds of data and accountability systems needed to help more students prepare for and succeed in postsecondary education. We will (1) describe our view of an effective P-16 data and accountability system; (2) describe the general status of K-12 and postsecondary data systems; (3) provide examples of promising state practices; and (4) offer some concluding recommendations.

An Effective P-16 Data and Accountability System

Effective and comprehensive systems share several common characteristics. They inform all stakeholders of the condition of education at various levels. They enable states to identify effective educational practices and diagnose problems. They have the potential to increase the commitment among stakeholders to collect, analyze, and use information on student performance. Effective systems also have the ability to identify programs, schools, and students that are successful, in addition to those that need attention and assistance to become more successful. Finally, such systems help K-12 students and teachers focus on the curricula and content that must be mastered to be successful in postsecondary education. As state systems for data and accountability evolve – in particular, as they gain the ability to track student progress over time and capture a wide range of educational influences – they hold the promise of providing the tools needed to monitor and improve performance.

At best, successful accountability systems become more than simply reporting mechanisms. They focus on student performance in relationship to criteria established by the state and provide a common rubric for evaluating student and school performance. Good systems can be used to assess and improve K-12 achievement that, in turn, can result in more students meeting the standards required for both admission and success in postsecondary education. Successful accountability systems capture data on student learning activities, assessment of those learning activities, and characteristics of the schools in which students are enrolled. Learning activity data can consist of course content, grades, class size, and information about teachers associated with those courses, including certification criteria and number of years teaching. Exemplary data systems seek to move beyond these traditional measures and assess how well a given set of learning activities contributes to student learning. School-level data should consist of numbers of students served from families below the poverty line, student-teacher ratios, dropout rates, measures of school climate, and measurements of parental and community involvement.

The actual decisions about what constitutes assessment data must derive from a given state's goals for its accountability system. Some states choose a performance model that focuses on the numbers of students that meet or exceed state standards. Others use a growth model, focusing on the progress of students from grade to grade. The choice between a performance or growth model dictates the timing for collecting assessment data and the nature of assessments themselves. States typically choose to collect standard test data at predefined grade levels and most often by a survey test. This point-in-time assessment scheme is most often used to compare performance across schools, not to make judgments about the academic growth of individual students. Performance models generally assess students periodically to obtain a portrait of student achievement at that time. A growth model, on the other hand, implies pre- and post-assessment, either within a given grade level or across grade levels.

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States face other decisions when creating an assessment system. Each state needs to determine whether off-the-shelf survey tests meet its assessment needs and whether the content of these commercially produced assessments aligns with the state's own standards. Failing this alignment, a state needs to decide whether a survey test created specifically for its curricular standards is a prudent investment. States also need to consider whether the results of alternative assessments – e.g., portfolios, demonstrations, and other non-test documentation of learning – should be included in data systems. Each of these techniques requires that responsible parties make firm judgments about the validity of assessments and their reliability, especially within high-stakes state environments.

Complex longitudinal systems are designed to track the progress of individual students and require individual student data collected over time. Such systems, typically called "unit record" systems, collect a wide range of demographic and performance data at regular, systematic intervals to support analysis. Unit record systems have several other advantages over aggregate systems. They require that consistent definitions be used for individual variables, making valid comparisons possible. Statewide unit record systems also provide a mechanism to ensure that data submitted by providers are accurate, especially when they are used to compare schools. Finally, in addition to generating routine reports, unit record systems can be used to produce answers to "what if" questions that frequently can take accountability questions to higher levels.

Statewide unit record systems also provide a mechanism to ensure that data submitted by providers are accurate, especially when they are used to compare schools.

Unit record systems are characterized by the presence of a unique identification number that allows an individual student's data to be linked across grades and schools. A system of this sort also makes possible the linkage of assessment data to demographic and program records. There is clearly movement towards unit record systems. A recent on-line survey of state K-12 education agencies, developed by the National Center for Education Statistics, (www.nces.ed.gov/forum/tec-survey) assessed each state education agency's information systems. Twenty-two of the forty-seven states responding indicated that they use an individual student-level record system, fifteen states are in the design stage, and only ten states have no current plans to develop a system of this type (Lee 2002).

The General Status of K-12 and Postsecondary Data Systems

For most of the twentieth century, states were content to let patterns of student achievement follow their own course – those students who performed well in the primary and secondary grades moved on to higher education, while those who did not found lower-skilled but reasonably well-paying jobs. With the increasing skill requirements of work and heightened competition in a global economy, states have come to understand more clearly the link between an educated workforce and their own ability to sustain economic growth. As the educational aspirations of states have grown, the K-12 standards movement, concern with educational inequities, and interest in the performance of postsecondary students have also increased substantially. These factors have reinforced state-level data collection, especially in the K-12 systems, where testing data became widely available by the late 1990's. States are also implementing the accountability standards within the "No Child Left Behind Act" of 2001, which require assessments in all schools in reading, mathematics, and, eventually, science in grades three through eight. The act requires that every state develop an accountability system, that all students be included, and that standards apply to all schools and students.

The good news is that the data that can be used for accountability and improvement are for the most part plentiful. The data pieces of a strong accountability system are in place in many states, even though no single state yet possesses a system sufficient to answer all the questions that are asked. The bad news is that these frequently disparate data are seldom assembled into comprehensive information systems. Many systems have collected student achievement data for many years, but only a handful of states have begun to combine these data with those of other schools and colleges to produce information and guide decisions.

The progress currently being made toward accountability systems in many states will not necessarily match all the requirements of the "No Child Left Behind" Act. Prior to this Act, most states addressed accountability concerns by collecting aggregated data about the average performance of students or groups of students in particular schools. While this effort represented a groundbreaking step, it can be quite limited for two main reasons. First, aggregate data provide "snapshots" of average student performance within individual schools but no information about individual students. This flaw means that individual student data cannot be linked with other elements – such as courses taken and socioeconomic factors – that might influence individual performance. Second, aggregate data shed little light on the performance of students and schools across time. The effects of educational reform cannot be captured in a single slice. Aggregate data cannot be combined adequately to assess progress, or lack thereof, since those students whose performance measures were combined to create aggregate statistics in one year may not be the same students whose performances are combined in the next year.

The good news is that the data that can be used for accountability and improvement are for the most part plentiful.

Colleges and universities also require accountability systems, although the purposes of such systems may be somewhat different. Particularly since 1990, state policymakers have become increasingly interested in the productivity and efficiency of public postsecondary systems. Their concern stems from the fact that state resources are declining at the same time that costs and demands for improved access have increased. A recent survey by the State Higher Education Executive Officers (SHEEO) confirms that accountability and effectiveness are among the top issues for state decision makers; these issues have been close to the top of the list for each of the surveys done over the past decade. The most recent survey confirmed the results from an earlier SHEEO report on performance measures, which noted that state policy agendas for accountability continue to emphasize the dual purposes of improvement and accountability. It also noted that the most commonly used measures for performance reporting are quantitative indicators of "outcome" or "output" including graduation rates (Ruppert 1998).

Although most people do not question the overall value of a college education, higher education must make the case to the public and to political leaders that this value is real and that postsecondary education deserves financial support. Demonstrating this value requires robust data and information systems for postsecondary education, as it does for K-12 systems. Over time, data systems have been developed at the institutional level that allow staff to analyze data, generate reports, respond to both internal and external demands, and demonstrate the value of the education that institutions provide. These systems have become quite adept at addressing institutional issues, but they can be limited when used collectively to address state concerns. Giving answers to many of the questions policymakers now ask will require definitional consistency and comprehensiveness that are frequently missing across institutional systems. Many complex issues require coordinated analysis beyond those studies produced by one or more institutions, especially when statewide responses are required to questions about student transfer, occupational placement, and inter-state migration.

Over the past decades, statewide higher education agencies and the federal government have assumed greater roles in the area of data gathering and production and information management. This process began with the collection, analysis, and reporting of information gathered from the institutions and based on their individual data systems. The information frequently included data on applicants, student enrollments, faculty and staff, finances, and facilities. Over time, data on completions, financial aid, and student courses were added. Like K-12 systems, state higher education organizations and federal agencies began to establish common definitions and reporting formats allowing them to generate meaningful information at the state and federal levels. Eventually many states developed their own statewide databases, which gave them even more analytical capacity, including the ability to compile the information needed for federal reporting. As noted in a forthcoming report (Ewell, et al.) from the National Center for Higher Education Management Systems (NCHEMS), these systems have some common characteristics. Among the most important of these is the inclusion of electronic unit records unique to each student. In addition, these records are frequently based on data gathered from institutions at

Many complex issues require coordinated analysis, especially when statewide responses are required to questions about student transfer, occupational placement, and inter-state migration.

specific points of time and maintained centrally. In some ways, these systems are similar to the K-12 unit record systems discussed earlier. As the NCHEMS report notes, thirty-nine states currently have state unit record databases. The eleven states that do not have unit record databases are relatively small, and as a result, 87 percent of all headcount enrollments are in states with one or more state-level databases. Eighteen of the databases contain data from the 1970's or 1980's, and half of the databases built in the last decade contain data collected prior to 1995. Federal reporting standards in the Integrated Postsecondary Education Data System (IPEDS) and other required federal reporting have encouraged some consistency of definitions across systems.

Despite these efforts, the range of data systems varies considerably. Some are very basic, while others are much more complex and contain a wide range of data on students, courses, and grades. In a few states, where state-level financial aid programs are the responsibility of the state agency, data are also included from private institutions. Some states have data links to labor databases; most do not. Other challenges include the fact that not all states collect data at the same point in time and, as noted above, not all states collect the same data elements. Most states don't use the Social Security Number as a student identifier because of privacy concerns. Many are taking steps to create new identifiers to meet these concerns. However, the assignment of unique identifiers limits the possibilities for tracking students outside of data systems that do not or cannot share these identifiers.

Although they have shortcomings, unit record systems are valuable for accountability reporting and performance funding initiatives. The level of information available about students and the states' postsecondary systems is substantially greater than it was twenty years ago. These systems have been a large part of the foundation for comparative peer data, and the state averages that are now in wide circulation can address critical policy questions about student migration and progress within a given state. The largest shortcoming of these systems, however, is their isolation; the systems for K-12 students and postsecondary students are rarely linked together. The value of a P-16 system can only be analyzed when data are available across all components of that system. Enabling states to verify that their investments in education have in fact been fruitful across all levels will require that very cross-system linkage.

Promising State Practices

While states are in different stages of implementing their various systems, linking together information from different sources becomes the next major step for many state-level data systems. Some data are already being shared even without direct links. Some of the postsecondary unit record systems contain admissions information, including a student's high school and final secondary school grade-point average. Student work undertaken prior to admission to a particular school in the form of transfer credits or prior college-level work is also available in certain systems. Extracting this information has permitted many states to develop feedback systems that allow high schools to receive information about their graduates' postsecondary performance. Communication and data sharing of this sort enable greater cooperation among school districts and state colleges and universities regarding academic preparation and expected high school coursework. The value of these partnership efforts should not be minimized even though they are limited. This data sharing can have a direct impact on the decisions being made in a P-16 system. The ability to analyze what a student has learned in high school and what he or she is attempting to learn in college is a promising development in the evolution of unit record data systems.

> Communication and data sharing enable greater cooperation among school districts and state colleges and universities regarding academic preparation and expected high school coursework.

Even more value will come from the direct and formal coordination of data systems, though it will be challenging to achieve this task on a broad scale. Viewing student data as a valuable resource regardless of student level will require substantial cooperation between multiple agencies and state-level education organizations. Jonathan Tafel and Nancy Eberhart (1999), writing in "Stateside School-College (P-16) Partnerships to Improve Student Performance," very aptly note that a state's ability to collect quality data and conduct appropriate analysis is necessary for an effective P-16 education system. Robust student databases are required to monitor student progress across the P-16 continuum, enable early assessment for remediation, assess possible intervention activities, and locate barriers within systems.

Many of the issues that were previously addressed through separate systems will need to be addressed cooperatively. Common definitions and data collection methodologies, issues of privacy and confidentiality, and ownership and control of the data will all need attention. These challenges are great, but the return will also be substantial. Good data and information across all sectors and levels of education will provide a state with a system-wide perspective on its P-16 system.

> **Common definitions and data collection methodologies, issues of privacy and confidentiality, and ownership and control of the data will all need attention.**

Several states have programs in place that demonstrate the power of partnerships. Maryland has an alliance of the Maryland State Department of Education, the Maryland Higher Education Commission, and the University System of Maryland. The Maryland Partnership for Teaching and Learning, K-16, has identified core learning goals and academic content standards designed to help students transition from high school to college and the workplace. The K-16 partners have worked together to make sure high school exit requirements are better aligned with college admissions requirements.

Florida is in the process of building a K-20 education data warehouse that addresses many of these issues (http://edwapp.doe.state.fl.us/doe/). This database pulls together resources from existing systems, including a robust P-12 data system that has been in place for more than 10 years, data from the well-established community college and university systems, and financial aid data. Florida is in the relatively unusual circumstance of having a single agency, the Florida Department of Education, overseeing all public education activity in the state. This obviously makes data sharing much more feasible, and the data warehouse allows the Department to analyze information from several sectors. The Department has an ambitious set of goals: to gather complete, timely, and accurate data; obtain a statewide view; develop an integrated technical environment that incorporates data from multiple sources and organizations; merge historical data with current data in a structured repository; create comprehensive data definitions; and provide easy access and manipulation. The warehouse is a repository that integrates existing, restructured data, provides state-of-the-art analytical capabilities, and – not least – respects confidentiality. Its mission statement is clear: "The mission of the Florida Education Data Warehouse (EDW) is to provide stakeholders in public education – including, but not limited to, administrators, educators, parents, students, state leadership, and professional organizations – with the capability of receiving timely, efficient, consistent responses to inquiries into Florida's Kindergarten through University education system."

Conclusion

Good decisions require good data. The data and data systems that exist in current P-16 systems attempt, with varying results, to support the decisions made by educators and the public that affect current and future students. These systems were originally designed to count or verify student enrollments and periodically to produce demographic profiles; they are now moving steadily beyond those basic tasks. Data systems of the future will be required to do more: they must provide a comprehensive foundation for documenting the achievement of all students, schools, and colleges. Coordinated efforts will be required to address the challenges inherent in each individual system, as well as those that result from working across systems. As the purposes of information continue to evolve, exemplary data and accountability systems will become more efficient. They will be designed and implemented in ways that increase the ability of policymakers and practitioners to focus on data that are useful for decisions – within a particular level of the system, and ultimately across the entire spectrum of P-16 education.

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Appendix

The Pathways to College Network

The Pathways to College Network is an alliance of private and corporate foundations, nonprofits, educational institutions, and the U.S. Dept. of Education. Launched in December 2000 and with funding commitments expected to total over $2 million over the first three years of the project, the mission of the Pathways Network is to focus research-based knowledge and resources on improving college preparation, access, and success for under-served population, including low-income, underrepresented minority, and first-generation students. The associations involved in Pathways represent regional, cultural, and national interests. They include:

- ACT, Inc.
- American Council on Education (ACE)
- American Youth Policy Forum (AYPF)
- ASPIRA , Inc.
- The College Board
- Council for Opportunity in Education
- Education Commission of the States (ECS)
- The Education Resources Institute (TERI)
- Institute for Educational Leadership (IEF)
- National Association for the Advancement of Colored People (NAACP)
- National Association for College Admission Counseling (NACAC)
- National Association for Secondary School Principals (NASSP)
- National College Access Network (NCAN)
- National Council for Community and Educational Partnerships (NCCEP)
- National Urban League
- Pacific Resources for Education and Learning (PREL)
- State Higher Education Executive Officers (SHEEO)
- University of California System – EMP Collaborative
- Western Interstate Commission for Higher Education (WICHE)

The Pathways to College Network is conveined by Occidental College and funded by the following providers:

- Daniels Fund
- Ford Foundation
- Bill & Melinda Gates Foundation
- GE Fund
- The James Irvine Foundation
- W.K. Kellogg Foundation
- KnowledgeWorks Foundation
- Lucent Technologies Foundation
- Lumina Foundation for Education
- U.S. Department of Education
- Fund for the Improvement of Postsecondary Education (FIPSE)
- Office of Vocational and Adult Education (OVAE)
- Nellie Mae Education Foundation
- Sallie Mae Fund

Four organizations comprising the policy component of the Pathways to College Network participated in the case studies, and in planning and implementing the state meetings and regional forums related to this project. These organizations and their key staff participants are:

The College Board

The College Board is a national nonprofit membership association whose mission is to prepare, inspire, and connect students to college and opportunity. Founded in 1900, the association is composed of more than 4,200 schools, colleges, universities, and other educational organizations. Each year, the College Board serves over three million students and their parents, 22,000 high schools, and 3,500 colleges through major programs and services in college admission, guidance, assessment, financial aid, enrollment, and teaching and learning. Staff from The College Board who participated in this project include: Michelle Booth Cole, Rafael J. Magallan, and Lezli Baskerville.

Education Commission of the States (ECS)

The Education Commission of the States (ECS) is an interstate compact created in 1965 to improve public education by facilitating the exchange of information, ideas and experiences among state policymakers and education leaders. As a nonprofit, nonpartisan organization involving key leaders from all levels of the education system, ECS creates unique opportunities to build partnerships, share information and promote the development of policy based on available research and strategies. Staff members who participated in this project include: Terese Rainwater, Spud Van de Water, and Carl Krueger

State Higher Education Executive Officers (SHEEO)

The mission of SHEEO, the national association of state higher education executives, is to help the states develop and sustain excellent systems of higher education. Its fifty-six members are the CEOs of statewide governing and coordinating boards for higher education. Former SHEEO Associate Executive Director, Esther Rodriguez initiated the development of the P-16 Initiative, and other SHEEO staff with significant participation include: Tricia Coulter, Paul Lingenfelter, Hans L'Orange, Gail Miller, Alene Russell, Mary Sweeney, Richard Voorhees, and Susan Winter.

Western Interstate Commission for Higher Education (WICHE)

The Western Interstate Commission for Higher Education is a regional organization created to facilitate resource sharing among the higher education systems of the West. Fifteen states are members of WICHE, an interstate compact created by formal legislative action of the states and the U.S. Congress. Staff members who participated include: Sharon Bailey, Cheryl Blanco, and David Longanecker.

The SHEEO K-16 – Teacher Development Committee provided support and guidance to this project from its conception to its completion. Members of the committee during this period include:

Committee Member	***Years served***
Robert Barak, Interim Executive Director, Board of Regents, State of Iowa	2001-2002
Diane Barrans, Executive Director, Alaska Commission on Postsecondary Education	2001-2002
Linda Blessing, Executive Director, Arizona Board of Regents	2000-2002
Hans Brisch, Chancellor, Oklahoma State Regents for Higher Education	2000-2003
Molly Corbett Broad, President, University of North Carolina	2000-2003
Don W. Brown, Commissioner of Higher Education, Texas Higher Education Coordinating Board	2000-2003
Roderick Chu, Chancellor, Ohio Board of Regents	2000-2003
Robert Clarke, Chancellor, Vermont State Colleges	2001-2002
Richard A. Crofts, Commissioner of Higher Education, Montana University System	2000-2001
Kathryn Dodge, Executive Director, New Hampshire Postsecondary Education Commission	2002-2003
Sandra Espada-Santos, Executive Director, Puerto Rico Council on Higher Education	2000-2001
Gregory G. Fitch, Executive Director for Higher Education, Idaho Board of Education	2000-2001
Warren H. Fox, Executive Director, California Postsecondary Education Commission	2001-2002
Cecelia H. Foxley, Commissioner of Higher Education, Utah System of Higher Education	2000-2003
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Lu Hardin, Director, Arkansas Department of Higher Education	2001-2002
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Valerie F. Lewis, Commissioner, Connecticut Department of Higher Education	2000-2002
Katharine C. Lyall, President, University of Wisconsin System	2001-2003
Michael E. Malone, Executive Director, Alabama Commission on Higher Education	2002-2003
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Robert L. Moore, Executive Director, California Postsecondary Education Commission	2002-2003
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Gregory Nichols, Executive Director, Board of Regents, State of Iowa	2002-2003
Jane Nichols, Chancellor, University & Community College System of Nevada Chair 2002-03; Vice-Chair 2001-02	2000-2003
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Gerald Patton, Deputy Commissioner for Higher Education, New York State Education Department	2000-2002
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William Proctor, Executive Director, Florida Council for Education Policy Research and Improvement	2000-2003
Judith Ramaley, President, University of Vermont	2000-2001

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Providence, Rhode Island

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